



# Smart Computing

**& CONSUMER ELECTRONICS**

**In Plain English**

smartcomputing.com

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# Mobile Computing

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# Smart Computing®

& CONSUMER ELECTRONICS

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## Editor's Note

It wasn't that long ago that many of us reserved notebook use for travel. The notebook, bulky though it was, had enough horsepower to handle basic Internet tasks, and so you stuffed it in your travel bag and made do.

Back at the office, you'd set that notebook aside and power on your desktop, which was far more capable and had much more storage. It also had a wired connection, which was much faster and more reliable than a Wi-Fi connection.

These days, the performance gap (between notebooks and desktops) isn't nearly as pronounced. Notebooks can handle many of the same processing duties that desktops can, and video—once an area where properly equipped desktops had a distinct advantage—is no longer a problem for most notebooks. The same goes for network connectivity: Wi-Fi has progressed to the point that you can reliably connect (and at reasonable speeds) without trouble. Tablets have entered the scene, creating a new sub-category in the mobile device field.

The result of all these changes? As the line between desktop and notebook blurs, the meaning of the term "mobile computing" is shifting for many office workers. Instead of picking up your notebook for a long trip, you're likely to bring it with you to your next meeting. You can pass a tablet around the room without losing your network connection. This month, we take a look at these new mobile devices.

Joshua Gulick

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# ATHENA COMPUTER POWER

## AN ADVOCATE FOR SMALL BUSINESSES

Athena Computer Power Corporation believes that you can have it all as a company—the best products, flexibility, customer service, and technical support. Based in City of Industry, California (with a manufacturing facility in China), the 7-year-old company is staffed by the industry's top veterans with over 20 years of experience in the power supply field. They provide power products that include PSUs (power supply units), rackmount solutions (1U, 2U, 3U, 4U, and 5U), chassis, backplanes, mobile racks, enclosures, and power converters.

Athena Power products are found in everything from mainframe computers to mini-ITX systems and industrial equipment.

At Athena Power, customers' needs and desires are taken seriously. The company listens to its customers and understands the needs of small businesses. And although Athena Power doesn't compromise on providing highly efficient, reliable power supplies, it will make adjustments depending on what its customers require.

Alongside their standard of "True Green Power" Athena Computer Power brings efficient and green products and combine it with their high standards in customer satisfaction; this company is raising the bar in the Power industry.

### The Goods

Athena Power has a wide range of products, but its  $\alpha$ -BOX<sup>2</sup> line of chassis is particularly well-suited for small businesses, especially when paired with one of its FlexATX power supplies.

The  $\alpha$ -BOX<sup>2</sup> line is a duo of slim ITX chassis that differ in color from black to pink. They're lightweight and designed to be mobile, allowing users to relocate a workstation quickly. They support most



Athena Power's  $\alpha$ -BOX<sup>2</sup> (left) and the Workstation (right) are sleek and elegant. The  $\alpha$ -BOX<sup>2</sup> is ideal for mini-ITX users and the Workstation is compatible with most micro ATX boards.

Mini ITX motherboards, feature durable and heat-dissipating aluminum bodies, and weigh 3-5 pounds, depending on the model. Users can build their ideal system within those cases.

Athena Power also has a line that fits the micro ATX and lower form factors. Their chassis dubbed as "Workstation" is also used for small businesses and media centers. Designed with saving space in mind, these products are made for those who want to maintain a micro ATX  $\alpha$ -BOX<sup>2</sup> is an affordable and beautifully designed chassis for offices, home offices, or even as your own personal desktop.

Athena Power's FlexATX line of PSUs complements the  $\alpha$ -BOX<sup>2</sup> line by

offering compact, efficient, and reliable power. The units range in wattage from 220-350W, and many of them (like a number of Athena Power products), have achieved the Bronze level 80 PLUS certification, meaning that they're especially power-efficient. Some have even achieved the Silver level certification, which is even more difficult to obtain. The ones that don't bear an 80 PLUS certification are currently being reviewed for inclusion in that category.

Athena Power prides itself on smart design, flexibility depending on user needs, and top-notch customer service. These traits are what makes Athena Power such an impressive company. ▀

[WWW.ATHENAPOWER.US](http://WWW.ATHENAPOWER.US)

# Toshiba Targets Wide Audience With New Laptops

Finding the right laptop for your needs isn't just about price. Today's manufacturers go to great lengths to create the perfect combination of processing, networking, display, and multimedia features that fits particular users, whether they're seeking high performance or compatibility with a wide range of productivity tasks. Toshiba falls in line with this trend and recently unveiled laptop lines that target different user types.

The company's Satellite P700 series (starting at \$629.99; [www.toshiba.com](http://www.toshiba.com)) is a premium line of laptops designed to accommodate both multitasking and multimedia requirements. These models are available with second-generation Intel Core i3, i5, or i7 processors,

along with graphics options including the Nvidia GeForce GT 540M with battery-saving Optimus technology. Also available is the AMD A6-3400M APU (accelerated processing unit) with discrete AMD Radeon graphics.

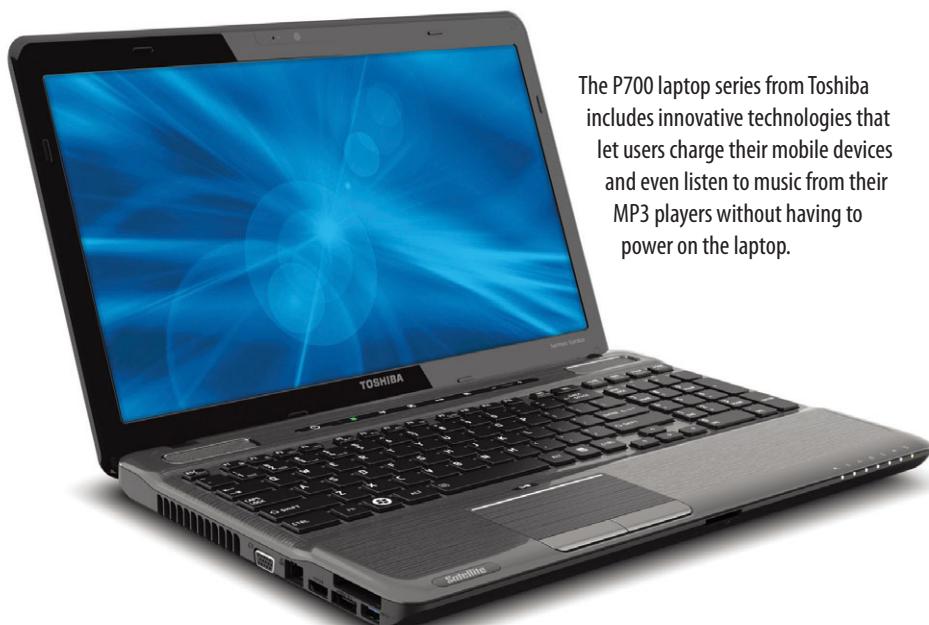
Standard features in the P700 series include raised-tile keyboards, HDMI (High-Definition Multimedia Interface) and USB 3.0 ports, harman/kardon speakers, and a range of Toshiba's "Smart" technologies. For example, USB Sleep & Charge and Toshiba Sleep & Music let users charge their smartphones or other devices and listen to music from their MP3 players while the laptop is powered down. Also onboard the P700 laptops is Toshiba's

Resolution+, a video upconversion technology that automatically adjusts color, brightness, and contrast to lend a high-resolution look to video content. These models also include a hard drive impact sensor, PC Health Monitor, and Toshiba's eco Utility to help protect components and extend battery life.

Although three models (P745, P755, and P775) fall in the general P700 series, there's another model that takes advantage of new 3D technologies. The P750 (starting at \$1,199.99) has a 15.6-inch, 3D-ready TruBrite display and Nvidia 3D Vision technology and comes with wireless active shutter glasses. The P750 also includes components for Blu-ray 3D playback, 2D-to-3D movie conversion, and an output for connecting a 3D HDTV.

For users with less-intensive computing needs, Toshiba also released the Satellite L700 and C600 series laptops. Aimed at families, students, and small businesses, the L700 laptops start at \$449.99 and include either Intel Core processors or AMD's new dual-core A4 or quad-core A6 APUs. The L700 laptops include USB Sleep & Charge technology, and the models are available in several colors.

The C600 series starts at \$379.99 and is designed for users seeking basic office productivity. These models include either the AMD C-50 or E-350 APU, and configurations are available with up to 640GB hard drives and 4GB of DDR3 (double-data-rate) memory. Included are two USB 2.0 ports, a DVD SuperMulti Drive, and 802.11n Wi-Fi. ■



## ONLINE SERVICES

**1&1 1&1 WebHosting**

### 1&1 Click & Build Applications



**NEW!** Over 65 FREE Click & Build applications available to install with Linux web hosting packages.

Choose from featured applications like WordPress, Joomla, Drupal and concrete5. Or, browse our complete catalog of popular installs including content management, eCommerce, advertising, chat, message boards, project management, social networking, website add-ons, wikis, blogs and galleries to build your website with ease!

**Categories**

- Most Popular
- Advertising
- Blog
- Chat
- Content Management
- eCommerce solutions
- Galleries
- Guestbook
- Message Boards
- Project Management
- Social Networking
- Website add-ons
- Wikis
- Other

**Most Popular**

**Joomla!** Joomla! is a powerful open source content management system. It is used for managing simple websites and complex corporate applications. Joomla! is easy to install, simple to manage, and reliable. Once Joomla! is installed and running, it is easy for even non-technical users to add or edit content, update images, and manage critical data. Anybody with basic word processing skills can easily learn to manage a Joomla! site.

**Drupal** Drupal is an open source content management system that supports pluggable modules that enable additional behaviors. The modules available for Drupal provide a wide assortment of features, including e-commerce systems, photo galleries, mailing list management, and CVS integration.

## Click, Build & Relax

When building Web sites, some designers choose not to integrate applications for fear of security issues that might be overlooked. However, 1&1 Internet has a solution with free, regularly updated applications available in its hosting packages.

More than 65 free 1&1 Click & Build ([www.land1.com](http://www.land1.com)) applications are now included with 1&1's Linux Dual Hosting packages (these packages start at just \$2.99 per month). Covering everything from calendars and content/project management systems to blogs, chat channels, and e-commerce tools, these apps can instantly add value to almost any Web site.

If you're thinking that these free applications are just generic tools designed to lure new subscribers, think again. The company includes a wealth of well-known solutions, including Joomla, WordPress, Drupal, Mambo, Magento, Sugar CRM, OrangeHRM, and many others. All of the applications are ad-free and can be added, changed, or removed quickly via the 1&1 Control Panel. ▀

With the new Click & Build applications from 1&1 Internet, businesses and other users can easily add popular secure applications to their Web sites for blogging, social networking, project management, ecommerce, and many other options.

## DISPLAYS

### LCD Glory On The Go

If you're in the market for an LCD monitor that can meet the ever-changing demands of your business, take a look at NEC's MultiSync EX231Wp (\$319; [www.necdisplay.com](http://www.necdisplay.com)), a 23-inch monitor that's built to deliver display requirements both in the office and on the road.

The EX231Wp is thin (with a bezel depth of just 14.2mm), light (a weight of just 9.3 pounds with the stand), and features a quick-release button that lets users easily remove it from its stand for quick transport. Whether used in the office or on the road for presentations, this monitor's impressive viewing angles (178 degrees vertical and 178 degrees horizontal) mean everyone in your group can see the screen.

Although the EX231Wp's LED (light-emitting diode) backlighting helps reduce the power consumption to as little as 27 watts, there are other nifty technologies onboard to help further conserve energy. A human sensor detects physical activity in front of the monitor and reduces power up to 94% when it detects inactivity, while a built-in ambient light sensor detects external light sources and adjusts brightness on the fly. Similarly, a dynamic video mode improves



Thanks to the quick-release button on NEC's EX231Wp monitor, users can easily remove it from the stand to transport the display to meetings, presentations, and other locations.

video and image quality through real-time brightness, color, and contrast optimization. ▀

## A Go-Anywhere Web Cam

As new Web cams continue to boast quality that rivals stand-alone video recorders, it was only a matter of time before a manufacturer created a model that can serve both purposes. The Logitech HD Webcam C615 (\$79.99; [www.logitech.com](http://www.logitech.com)) not only sits comfortably on a desktop or laptop PC, but it also can accompany users on the go for video recording or video calls at a hotel, the office, or other locations.

The C615 can record in Full HD 1080p, but it also supports 720p HD video calls on Skype, Logitech Vid HD, and Windows Live Messenger (as well as standard video calls on other applications, such as Yahoo! Messenger, iChat, and AOL

Instant Messenger). Thanks to the device's folding design, it's easy to transport, and it also includes a tripod-ready base that can come in handy for professional-quality HD video recording. There's also 360-degree rotation that allows the camera to be swiveled in any direction for calling and recording.

This 8MP (megapixel) camera features one-click photo and video uploading to Facebook, YouTube, and Twitter, along with auto focus, built-in microphones with noise reduction, and Logitech's Fluid Crystal technology, which boosts the quality of video calls and recordings through smooth, fluid motion and true-to-life colors. ■



Logitech's HD Webcam C615 not only accommodates Full HD 1080p video recording, but it also supports 720 HD video calls on a variety of platforms and includes one-click technology for uploading photos and videos to online content sites.

## FEATURE PACKAGE TOPICS

Each *Smart Computing* issue includes tips, reviews, and information about a variety of topics. Plus, each issue also has a featured group of articles about a selected topic. Below is a list of the Feature Packages from the previous year. As a *Smart Computing* subscriber, you have access to all of our archived articles at [www.smartcomputing.com](http://www.smartcomputing.com).

August	2010	Recover Lost Files
September	2010	First Aid For Your Gadgets
October	2010	Do More With Your Network
November	2010	41 Windows Tips & Tricks

December	2010	Search Engine Optimization
January	2011	Solve Printer Problems
February	2011	Social Networking & Your Business
March	2011	Backup For Home & Office

April	2011	Solve Software Errors
May	2011	Update Your Web Site
June	2011	Small & Home Office Security
July	2011	PC Maintenance

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# Small Business Resources

The Web has a trove of resources for SOHOs (small and home offices) and small businesses—if you know where to look. Find an association that can help you meet your goals; get information from the government about loans, grants, and taxes; and stay up-to-date with the best small business newsletters and blogs. If you have a pressing question, pose it on a forum to see what your peers have to say.



## ASSOCIATIONS & SUPPORT

### Better Business Bureau

[www.bbb.org](http://www.bbb.org)  
(703) 276-0100  
4200 Wilson Blvd.  
STE 800  
Arlington, VA 22203-1838

### Main Street Alliance (MSA)

[mainstreetalliance.org](http://mainstreetalliance.org)  
[info@mainstreetalliance.org](mailto:info@mainstreetalliance.org)  
(603) 831-1835  
3518 S. Edmunds St.  
Seattle, WA 98118

### National Federation of Independent Businesses (NFIB)

[www.nfib.com](http://www.nfib.com)  
(800) 634-2669  
(615) 872-5800  
53 Century Blvd.  
STE 250  
Nashville, TN 37214

### National Small Business Association (NSBA)

[nsba.biz](http://nsba.biz)  
(202) 293-8830  
1156 15th St., STE 1100  
Washington, DC 20005

### SCORE

[www.score.org](http://www.score.org)  
(800) 634-0245  
(703) 487-3612  
1175 Herndon Pkwy  
STE 900  
Herndon, VA 20170

### Small Business Development Centers Network (SBDCNET)

[www.sbdccnet.org](http://www.sbdccnet.org)  
(800) 689-1912  
501 W. Durango Blvd.  
San Antonio, TX 78207

## BLOGS

### Signal vs. Noise

[37signals.com/svn/posts](http://37signals.com/svn/posts)

### Small Business Search Marketing

[www.smallbusinesssem.com](http://www.smallbusinesssem.com)

### Small Biz Bee

[smallbizbee.com](http://smallbizbee.com)

### Small Business Trends

[smallbiztrends.com](http://smallbiztrends.com)

### The Small Business Blog

[www.sme-blog.com](http://www.sme-blog.com)

## Associations Blogs GOVERNMENT SUPPORT Forums

### The Entrepreneurial Mind

[www.drjeffcornwall.com](http://www.drjeffcornwall.com)



## FORUMS

### Small Business Administration Community

[www.sba.gov/community](http://www.sba.gov/community)

### The Small Business Community Forums

[www.smallbusinessforums.org](http://www.smallbusinessforums.org)

### Small Business Ideas Forum

[www.smallbusinessbrief.com/forum](http://www.smallbusinessbrief.com/forum)

### The Young Entrepreneur

[www.youngentrepreneur.com/forum](http://www.youngentrepreneur.com/forum)



## GOVERNMENT

### Grants.gov

**House Committee On Small Business**  
[smallbusiness.house.gov](http://smallbusiness.house.gov)

### Small Business and Self-Employed Tax Center

[www.irs.gov/businesses/small](http://www.irs.gov/businesses/small)

### Small Business Administration (SBA)

[sba.gov](http://sba.gov)

### U.S. Copyright Office

[copyright.gov](http://copyright.gov)

### U.S. Department of Labor

[dol.gov](http://dol.gov)

### U.S. Senate Committee on Small Business & Entrepreneurship

[sbc.senate.gov](http://sbc.senate.gov)

# SMALL BUSINESS Development Centers

Assistance For Entrepreneurs

**H**aven't the foggiest idea how to harness your entrepreneurial spirit, pull yourself anywhere using bootstraps, or think in or out of a box? Starting and running your own business is tough, but fortunately for prospective and current small business owners, SBDCs (Small Business Development Centers; [asbdc-us.org](http://asbdc-us.org)) dispense with the cliché and offer training, counseling, and other assistance to help you craft your vision into a real-world success.

## Run A Small Business

Pooling resources from federal, state, and local governments, as well as the private sector and the educational community, The Association of Small Business Development Centers is truly a joint venture with a vested interest in fostering small business growth. For an overview of what the SBDC can offer you and your small business, visit [bit.ly/dKYe2a](http://bit.ly/dKYe2a). The SBA (Small Business Administration; [www.sba.gov](http://www.sba.gov)) is partnered with SBDCs.

## Help On Your Turf

You may be surprised to learn that there's probably an SBDC branch nearby; there are locations in all 50 states, in the District of Columbia, Puerto Rico, and even in the U.S. territories. There are 63 nationwide Lead Small Business Development Centers coordinating program services for every sub-center and satellite location in each state. Centers are made up of directors, full-time



staff members, and various part-time staff and volunteers.

The best way to contact your nearest SBDC is to visit the Association of Small Business Development Centers' Web site ([asbdc-us.org](http://asbdc-us.org)), input your ZIP code into the Find Your Nearest Small Business Development Center text box, and then click Go. The results page will highlight Lead Centers but rank centers in order of those closest to your location. Often, SBDCs partner with universities and colleges, and

can expect from your nearest SBDC include help with financial, marketing, production, organization, engineering, and technical problems and access to feasibility studies that can flesh out a fledgling business plan. Some SBDCs also offer affordable training seminars to help with various aspects of running a business. You can also rest assured that your business with the SBDC will remain confidential.

## Women's Business Centers

The SBA offers WBCs (Women's Business Centers), which directly serve female entrepreneurs through nearly 100 educational centers nationwide. This organization strives to assist women in overcoming the hurdles they face in today's business environment by offering business management training and technical assistance to all women, with a special emphasis on economically or socially disadvantaged women. The services and training programs are also commonly offered in multiple languages to enable those who speak English as a second language or are still learning English. To find your nearest WBC, visit [bit.ly/hs3st2](http://bit.ly/hs3st2).

## Small Business, Big Payoff

Small business owners know that achieving success is about taking risks, innovating, and making tough decisions day in and day out. Thanks to the services offered at the SBA, SBDCs, and WBCs, you're not on your own. ■

## Frequent Question

If you're like many other people starting a small business, funding is at the top of your mind. A common question that entrepreneurs have for SBDCs is: "Am I eligible for grant money?"

The answer depends on the nature of your business. Grants.gov ([www.grants.gov](http://www.grants.gov)) will give you a clear picture of your options before your visit to a Small Business Development Center.

tend to be found on campuses across the country. On the search results page, you'll also find a link to the local office's Web page, email address, phone number, a fax number if available, and address.

## The Closest Thing To A Free Lunch

The services offered may vary by location, but all SBDCs offer many services free of charge. Some typical services you

# Roundup: Password Managers

## Digital Key Rings Safeguard Your Passwords

If you or your employees store passwords in an unsecure place (such as a text document or a sheet of paper), a password manager is a must-have.

A password manager keeps track of (and safeguards) all of the login information for your frequently visited Web sites. Password management software generally requires that you create and remember one master password to log in to your computer, effectively reducing the number of passwords that you need to remember to one. (Of course, we should point out that this one password controls access to all of your passwords, which means that protecting it is important.) Password managers are generally inexpensive—you can outfit your small office with password managers for less than \$30 a seat.

## What To Expect In A Password Manager

At the time of installation, you'll likely have the option of importing previously stored passwords from your browsers. After the software is installed, you'll find that whenever you visit a password-protected site (for which your software doesn't have login information), a prompt appears, asking if you want to save your username and password so you don't need to type them again the next time you visit the site. Most password managers store your login information in an encrypted database to protect the data from would-be thieves. Encryption methods and strength vary by password manager.

When you visit a site for which the password manager has login information, it places your username and

password in the appropriate fields. (In some cases, you may need to direct the software to do this.) Because your password management software stores such sensitive data, it too is protected by a



## Handy Password

password, which you should protect. After all, this master password controls access to all of your other passwords.

Many password managers also offer password generators to help you create and apply unique passwords that are much stronger than your children's birthdates or your pet's name. Such strong passwords usually have a complex string of letters, numbers, and symbols. You won't need to remember your new strong passwords because the password manager remembers for you.

Other common elements of password management software include mobile

## BUYING TIP

Many password management programs require just a single login password so you only have to remember one password to access all of your other password-protected sites. Be sure you select a password that is easy to remember. Most password manager publishers warn that they are not able to recover that master password if you lose it or forget it.

access via USB flash drives and support for automatically filling online forms (such as a shipping address form at a retailer's checkout page) with personal information that you provided to your password manager software. With that in mind, we'll take a look at popular password managers.

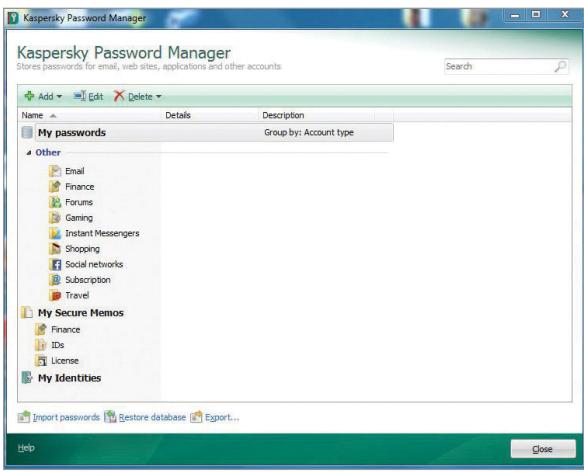
## Handy Password

Novosoft Handy Password ([www.handypassword.com](http://www.handypassword.com)) behaves the way you would expect it to: It requires a master sign-in password, stores your online passwords in a protected database on your computer, and automatically logs you on to online accounts that require a password. It has a toolbar component (which supports Internet Explorer and Firefox) that keeps its features in easy reach. You can also access your passwords via a traditional desktop program.

If the toolbar doesn't appear in either browser when you first install the software, right-click the Toolbar area and then click Handy Password. To add a password, visit a site, fill in your username and password, and then click the Sign In (or similar) button. At this point, Handy Password prompts you to save the information. Click OK and it will automatically enter

## BUYING TIP

When you select a master password for a single-password login managers, be sure to create a strong password that includes numbers, uppercase and lowercase letters, and symbols. This strong password works to deter those who try to steal passwords and will keep your data more secure.



Kaspersky Password Manager

your login information the next time you visit the page. All you'll need to do is click the Sign In button.

A new Password Recovery tool helps you remember a password that's been lost. Handy Password asks you to enter the components of the password you remember and then searches for likely possibilities. Once a forgotten password has been restored, the manager will then store it for later use. Handy Password also includes a form filler feature. Once you enter your information, it can enter that info into address fields and other forms.

Novosoft also offers Handy Password USB edition, which stores data on your USB drive. With it, you can access password-protected sites and accounts from any computer without typing the information via the keyboard.

## Kaspersky Password Manager

As with other password managers, Kaspersky Password Manager ([www.kaspersky.com](http://www.kaspersky.com)) uses a master password to protect its encrypted password database. When you visit Web pages for which it has login info, Password Manager automatically populates the username and password fields. Password Manager supports

major Web browsers, including Chrome, Firefox, and IE, as well as many lesser-known browsers, such as Seamonkey ([www.seamonkey.com](http://www.seamonkey.com)) and others.

In addition to passwords, Kaspersky lets you save your personal data (such as address, birth date, phone number, email address, and credit card information) in an encrypted file so it's easy to complete online forms.

If you activate the Virtual Keyboard feature (an option available directly from the login screen) when entering your master password, you won't need to worry about keyloggers, which are programs that, once installed on your computer, monitor your keystrokes.

Kaspersky Password Manager also includes a password generator that creates strong, random passwords for you. The software also includes a portable version that can store your password database to a flash drive. That's a handy feature for people who travel.



Password Genie

## BUYING TIP

Although most of the password management programs essentially perform the same function—creating one master password and subsequently storing and recalling passwords—review each program's features before buying. Some software saves personal information in order to automatically fill online forms, some have the ability to export the data to USB devices, and others can be used on more than one computer. Some companies offer free trials of their products, so use these as opportunities to test some of the features.

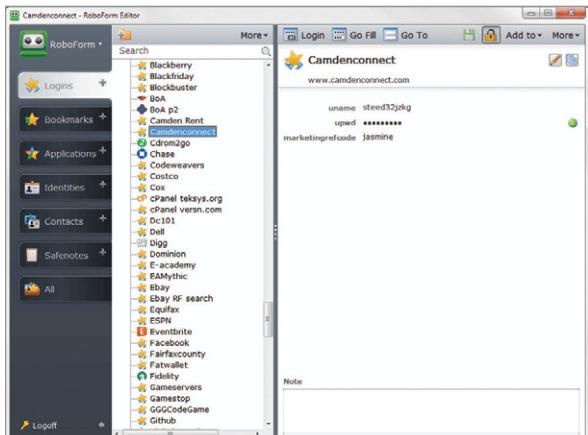
## Password Genie

Password Genie ([www.mypasswordgenie.com](http://www.mypasswordgenie.com)) received high marks from us in our May issue review (page 28). The program's browser toolbar is compatible with Web browsers such as Chrome, IE, Firefox, and Safari. (Use code SMRT30 to receive a 30% discount through September 12.)

The software includes a password generator and recognizes when you change your password for a Web site. You can verify the password change with a single click. You can configure Password Genie to automatically log you in to Web sites that you visit, which means you won't even need to click the Submit button.

A Synchronize feature syncs all of your Password Genie copies (you can install Password Genie on up to five computers) so your passwords are available on your other PCs. Password Genie includes free 24/7 technical support via toll-free phone and online chat. It also offers support through video tutorials.

In July, Password Genie rolled out a free password manager geared toward the Android. (It plans to release a version for iOS, Apple's mobile operating system,



RoboForm Everywhere

in the near future.) The Android version offers sync capabilities from mobile to computer platforms, auto-lock ability, and multiple categories for saving information such as bank accounts, birthdays, credit cards, frequent flyer miles, and others. Password Genie Android can be a standalone account, meaning you can use it without purchasing a licensed version for your computer. However, if you purchase a fully licensed version, you can sync the two accounts.

## RoboForm Everywhere

Now available in 30 languages, RoboForm Everywhere ([www.roboform.com](http://www.roboform.com)) provides you with an online account and has a yearly fee, rather than a one-time price. You can use RoboForm with as many of your devices as you want, and it syncs data across them all, including mobile platforms such as iOS (the operating system on iPads and iPhones)

and Android. It supports Chrome, Firefox, Internet Explorer, Opera, and can be installed on USB drives. It can also be installed on Windows and Mac computers.

RoboForm Everywhere has a multiple login option, which lets you log in to several Web sites at the same time. Open the editor, highlight the logins you'd like to use, and then select "batch login" to log in to all of them at once.

The Everywhere license allows for use on unlimited computers and mobile devices, and RoboForm Desktop requires one license per computer.

## Sticky Password

Sticky Password ([www.stickypassword.com](http://www.stickypassword.com)), which we recently reviewed (page 31 of the June issue) supports a wide range of browsers, including Chrome, Firefox, IE, and Opera. It also supports many popular programs that require passwords, such as iTunes and Skype. Sticky Password can access your passwords via a master password and allows you to select the authorization method—how you gain access to your

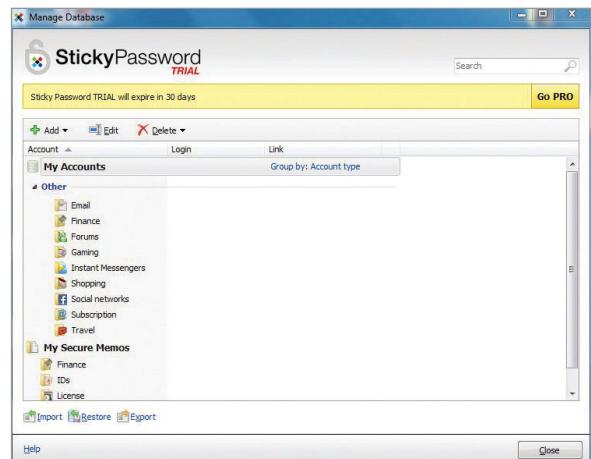
passwords. You may choose to enter a password or authorize through a USB or a Bluetooth device.

Upon installation, it imports previously saved login information from your browsers and certain password managers. It also prompts you to save additional Web site passwords. Sticky Password includes a password generator, an online form filler, and a version for your USB drive.

You can access Sticky Password's settings from the browser toolbar or by clicking the icon on your Desktop. A Virtual Keyboard feature lets you access Sticky Passwords without using your keyboard (to avoid keylogging software).

Sticky Password recognizes malicious links and won't enter your login information when it encounters a scammer's Web site that is posing as a site you regularly visit. ■

BY KIM QUADE



Sticky Password

## PASSWORD MANAGERS AT A GLANCE

Software	Price	Company	Contact Info	Web Site	PC OS Compatibility
Handy Password	\$29.92	Novosoft	<a href="mailto:sales@novosoft.net">sales@novosoft.net</a>	<a href="http://www.handypassword.com">www.handypassword.com</a>	WinXP/Vista/7
Kaspersky Password Manager	\$24.95	Kaspersky Lab	(866) 328-5700	<a href="http://www.kaspersky.com">www.kaspersky.com</a>	WinXP/Vista/7
Password Genie	\$15	SecurityCoverage	(319) 298-4700	<a href="http://www.mypasswordgenie.com">www.mypasswordgenie.com</a>	WinXP/Vista/7/Mac 10.5+
RoboForm Everywhere	\$9.95 first year; \$19.95 second year	Siber Systems	(703) 218-1851	<a href="http://www.roboform.com">www.roboform.com</a>	WinXP/Vista/7/Mac OS X
Sticky Password 5.0	\$29.99	Lamantine	<a href="mailto:support@stickypassword.com">support@stickypassword.com</a>	<a href="http://www.stickypassword.com">www.stickypassword.com</a>	WinXP/Vista/7

# TurboProject Professional

## Comprehensive Project Management

If the challenge of coordinating a complicated project—from a trade show appearance to a home or office renovation—overwhelms you, give TurboProject Professional a spin. Office Work Software has it on sale for \$49.99 and is extending this pricing to *Smart Computing* subscribers until the new release comes out in 2012.

TurboProject installs quickly and easily and offers an assortment of templates to get you started. You'll want to expand beyond these templates, but they are a good place to begin learning about the product.

### Defining Your Goals

TurboProject helps you get control of your projects—what the developer describes as anything with “a well-defined sequence of activities to achieve a specific goal.” You can create activities and events, assign start and end dates, create pools of resources (employees, family members, volunteers), and assign these resources. You or your staff can then record the time expended for an event or activity and use that data for budgeting and billing.

TurboProject is your helper, prompting you to fix resource allocation conflicts, updating timelines if you put extra people on the job, letting you create multiple dependencies so changes to one activity can be updated to others automatically, and more. TurboProject can even fix most conflicts for you and do so by priorities you set.

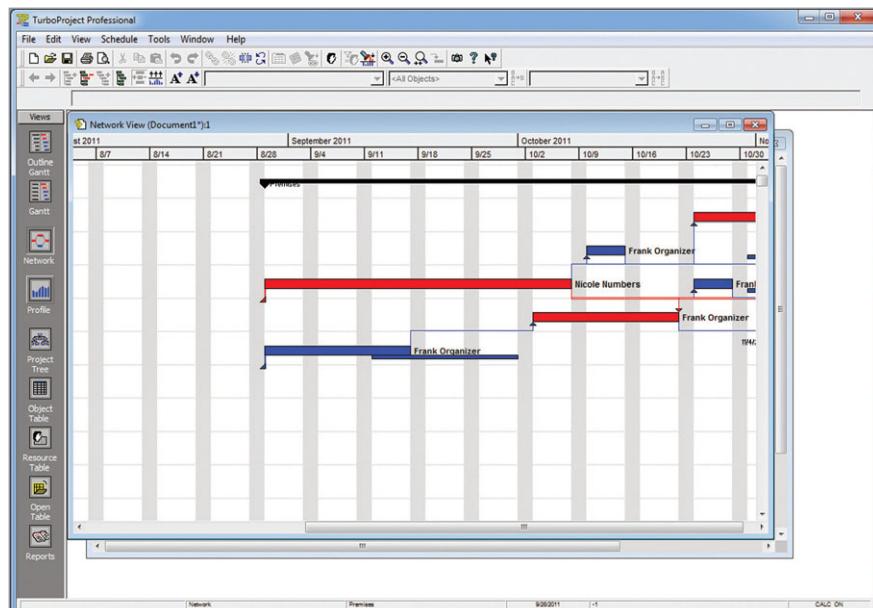
In other words, it provides broad support for critical-path management to ensure your project or event finishes on time and on budget, and lets you see why if not. You can generate Gantt (project schedule) charts and calendars as well as reports of expenses, resource loads, progress, and other important

\$49.99 | Office Work Software

info@officeworksoftware.com | www.turboproject.com

Systems Supported

 Windows XP | Vista | 7



**Key Features:** Full-featured, well-organized project management software helps you allocate and track resources, link related tasks, and more.

metrics. You can also email important details to team members or associates from within the program.

### Other Thoughts

Before you jump aboard, you should know some important caveats. Although its extensive feature set and intuitive nature are impressive, its interface is dated (think of Windows 98). More importantly, perhaps, it lacks the connectivity features, such as integration with Microsoft Office and Outlook, and support for mobile devices or Web-based access.

Finally, its Help function depends on Windows Help, an applet that Microsoft discontinued with Windows Vista. (Office Work plans to fix this problem in Q1 2012.) The program tries to help you download this applet, but we were unsuccessful. However, we did find a beneficial

“Getting Started” document at [tinyurl.com/5vq345n](http://tinyurl.com/5vq345n). Most Windows Vista/7 users should find this a good substitute.

### Serious Power, Major Savings

Even with those limitations, we are recommending this product, which tells you how good it is. You can get around most of its shortcomings—you can export data to Microsoft Excel or CSV format, for example. You can save data to Web format and view it online. But most fundamentally, you can use it as a stand-alone product that does a great job.

Office Work also offers two less complex versions of TurboProject—Standard and Express. All three come with a 15-day trial, so you can figure out which is right for you. ■

# PerfectDisk 12 Professional

# File Defragmentation & Optimization

PerfectDisk is one of those rare programs that just seems to keep getting better. With the release of version 12, developer Raxco has incorporated new functionality that will please new and existing users, alike. Features this go-round include faster analysis and optimization (including a custom optimization process and auto-detection for solid-state—such as flash—drives), a StealthPatrol option that optimizes your drives when you are not using the system, and S.M.A.R.T. monitoring. (S.M.A.R.T. is a hard-drive monitoring system that looks for and reports on indicators of potential failure.)

## Easy Does It

PerfectDisk Professional installs easily and offers checkboxes (checked by default) that look for updates and launch the program upon completing the installation. The interface is divided into five tabs—Defragmentation, StealthPatrol, Scheduling, S.M.A.R.T., and Dashboard. Click any of them and you'll be presented with an interface tailored to that function.

Dashboard lets you see a snapshot of your drives' states: how many fragments have been prevented with PerfectDisk's fragment-prevention technologies, how fragmented your drives are, how healthy they are, and more. Similarly, the S.M.A.R.T. tab offers a snapshot of your S.M.A.R.T. drive's status. The other tabs are where you configure PerfectDisk and get rolling with it initially.

The Defragmentation tab, as you might expect, lets you manually analyze and defragment your drives. However, here you can also tell PerfectDisk to defragment (or ignore) specific files; set preferences for alerts, file, and drive exclusions; set optimization parameters;

and enable boot-time defragmentation. (Boot-time defrag lets PerfectDisk optimize at boot time those drives or files not fully accessible during system operation.)

The StealthPatrol tab lets you enable, disable, or adjust this handy feature. It offers two components—OptiWrite, which intervenes when the system is preparing to fragment files, and Auto-Optimization, which optimizes fragment locations in the background to ward off badly defragmented drives. OptiWrite, which also reduces CPU load, is on by default. Auto-Optimization is off by default. When you run defragmentation on a drive, PerfectDisk will tell you if it thinks you should enable it. You can adjust the settings of either feature.

These features work with Raxco's patented SMARTPlacement technology to provide a nearly foolproof solution. SMARTPlacement groups files by creation and modified dates, assuming those with older dates are less frequently accessed. By extension, it's less likely that they will need to be moved again during future defragmentation sessions.

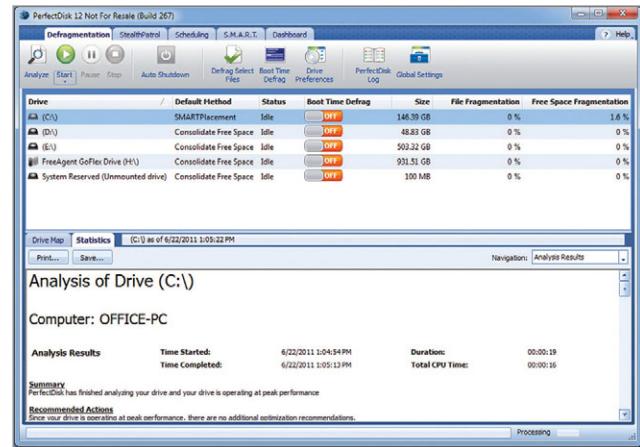
## Final Thoughts

Although there are some advanced options that knowledgeable users will want to play with, most of the defaults PerfectDisk establishes are suitable for the average user. We recommend you

\$39.99 | Raxco Software  
(800) 546-9728 | [www.raxco.com](http://www.raxco.com)

Systems Supported

 Windows XP | Vista | 7



**Key Features:** Automated, in-the-background file defragmentation and optimization tool also offers disk snapshots and other information.

establish a defragmentation schedule, but that's about it. And technically, because Raxco starts working the minute you install it, you don't have to do anything to get started.

If your system is sluggish and you haven't been keeping your drives defragmented, run defragmentation as soon as possible. The first pass might take a long time, because PerfectDisk takes such care with where it places your files. Consequently, scheduling for when you leave the PC (or at boot time) is the most sensible option.

The wait is worth it, because after defragmentation is complete, PerfectDisk will work around the clock to keep your drives in optimally defragmented condition. Its report features will let you know everything that transpires, and its alert system will notify you if problems occur. Run the free trial and let it work its magic. Wouldn't it be nice if everything in life were that easy? ■

BY JENNIFER FARWELL

# Choose GREENnet



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No installation required, Plug and Play these sturdy switches for reliable high-speed network connectivity

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MA\*LABS

Tech Data

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# OpenOffice.org 3

## Get Your Company's Name Out There

Office Suite  
Beginner  
How-To

**D**on't be left standing empty-handed when an associate or client asks for your business card. OpenOffice.org 3 helps you create a card that contains your contact information and helps promote your company.

### Create Business Cards From A Blank Document

From the OpenOffice.org main page, select Text Document. This opens the Writer word processing software. From the File drop-down menu, click New and Business Cards. The Business Cards dialog box appears. Click each tab and enter the appropriate information related to your project.

**Medium:** This section asks you to select the business card format and type using the information on the package of the cards you purchased.

**Business Cards:** Select a predesigned layout from this tab.

**Private:** If this section is not already completed, enter information for a business card

that includes your personal information, such as name, address, job title, etc.

**Business:** This tab asks you to enter the information appropriate for a card designated for business uses, such as company name, address, and phone number.

**Format:** This screen shows the dimensions of the card on which you've chosen to print your labels. If you are designing your own, use this section to enter the dimensions.

**Options:** Select the appropriate box if you are printing a single card or an entire page. Checking the box Synchronize Contents allows you to make simultaneous changes to all labels.

When all of the sections have been completed, click New Document. If you've chosen to create a sheet of labels, your draft document appears with

information gleaned from the data you entered. Make any necessary changes (such as font, alignment, and design) to the text or format to just one cell. Click Synchronize Labels to update all of the business cards.

### Create Business Cards From A Template

OpenOffice.org is an open-source software package, which means that registered users can participate in its programming and design and contribute templates; this includes business card templates.

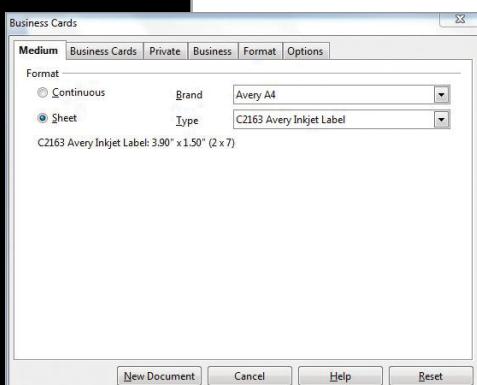
To access the templates, click File, New, and Templates And Documents to activate the Templates And Documents samples dialog box. Click Get More Templates Online to access an online Web page to search for business card templates. Choose the Business category and then Business Correspondence.

There are about 100 templates with business-related themes such as résumés, agendas, invoices, and communication plans; these may also be valuable resources for your business when you've completed your business cards. You can scroll through all of the choices or conduct a search using the Search function in the upper-left corner.

The information accompanying the template provides details regarding the type of label for which the template is produced, the application type, language, and system compatibility. When you've found a template that works for you, click Use It! From this full-page view, you are able to enter your own text on the business cards using the pre-entered fields as a guide.

Enter the desired information on the first card. When completed, highlight all of the text, select Copy from the Edit drop-down menu, move to the next cell, right-click, and select Paste. Continue this for the remainder of the cells, and you will have created a sheet of business cards that's now ready to be printed.

Creating business cards from scratch or using a template allows you to share your business' contact information with others. Or drop your card in the jars often located at restaurants to win a free lunch. ■



The Business Cards dialog box contains the elements to help you easily create business cards.

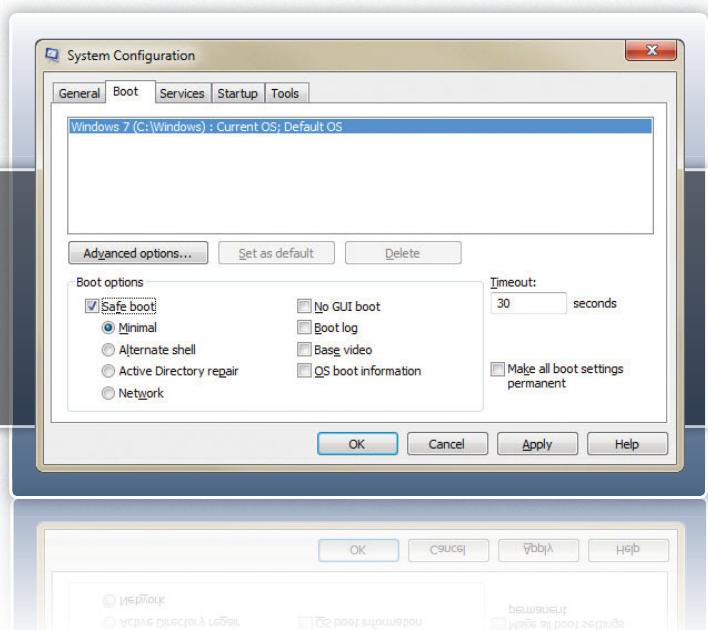
BY KIM QUADE

# Windows

## News, Views & Tips

Compiled by Joseph Moran

If you need to reboot your system in Safe Mode, you can automate the process with the Windows System Configuration Utility.



## MICROSOFT NEWS

### U.S. Supreme Court Rules Against Microsoft In Patent Case

The U.S. Supreme Court has upheld a lower court ruling ordering Microsoft to pay \$290 million to Toronto-based software firm i4i. The ruling is the culmination of

To find the definition of a word in Microsoft Word 2003/2007/2010, right-click the word and select Look Up. A Research pane will appear containing the word's dictionary entry; from here, you'll also be able to switch to the word's thesaurus entry from the drop-down menu provided. An alternate way to summon the Research pane is to hold down ALT while clicking a word.

a legal battle that began in 2007 when i4i sued Microsoft, alleging that Microsoft Word 2003 and 2007 infringed on a number of the company's XML (Extensible Markup Language)-related patents. ■

## WINDOWS TIPS

### Take Advantage Of Word's Dictionary & Thesaurus

Do you switch to a Web browser to check words with an online dictionary or thesaurus while composing a document in Microsoft Word? You don't have to, because Word has those features built right in.

If you ever want to go directly to a word's thesaurus entry, highlight the word and press SHIFT-F7.

### Enlarge IE9's Address Bar

There's a lot to like about Internet Explorer 9, but one thing you may not be used to is the shorter Address bar, made so because it sits on the same line as all your Web page tabs.

Fortunately, there's a quick fix: Right-click any tab and then select Show Tabs On A Separate Row. Your tabs will move south a bit, letting the Address bar stretch to the full width of the browser window as in previous versions of IE.

## Get Easy Access To Network Connections

In Windows XP, you can easily access Network Connections—the place to enable and disable your PC's various networking adapters, plus view and/or change their settings—simply by right-clicking the System Tray's networking icon. It's not nearly as convenient in Win7 or Windows Vista, however, where the same right-click takes you to the Network And Sharing Center.

For direct access to Network Connections in Vista/Win7, type **ncpa.cpl** in the Start menu's Search box and press ENTER. In Win7 only, you can also simply type **network connections** and then select View Network Connections, which is typically the first search result.

## Automatically Start Windows In Safe Mode

Booting a Windows computer into Safe Mode, sometimes several times in a row, is often a necessity when it comes to things such as system troubleshooting or malware removal. But the customary method of entering Safe Mode—starting the computer and furiously tapping F8 to interrupt the normal startup process—is inconvenient and imprecise because if your timing is off, Windows starts normally, and you have to start all over again.

There is a better way, courtesy of the Windows System Configuration Utility, or Msconfig. In Vista/Win7, type **msconfig** in the Start menu's Search box and press ENTER. (In WinXP, you must select Start, Run, and then type **msconfig** and press ENTER.) In the System Configuration dialog box, select the Boot tab. (It's the BOOT.INI tab in WinXP.) Under Boot options, select Safe Boot (/SAFEBOOT in WinXP) and also select Network (if you want Safe Mode with Networking). Click OK and reboot the computer to enter Safe Mode hassle-free. To switch back to normal booting, just run Msconfig again and undo the changes you made. ■



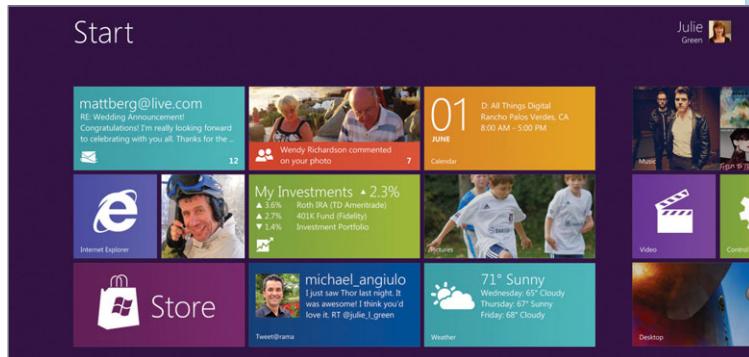
## WINDOWS NEWS

### Microsoft Lifts The Lid On "Windows 8"

At the recent D9 Conference in California, Microsoft offered attendees and the rest of the world the first official glimpse at the next version of Windows, internally code-named "Windows 8" (implying that "Windows 8" may not necessarily be the name of the released version).

The upcoming follow-on to Windows 7 features what Microsoft dubs a "reimagined" interface—in lieu of a Start menu, it sports a Windows Phone 7-like Start screen that runs full-screen, scrolls horizontally, and uses large tiles instead of icons for launching applications. Applications written for the new operating system will be able to provide live information and status updates within tiles.

The next version of Windows is being designed to run on devices ranging from tablets to desktop PCs, so although the new Start



The upcoming version of Windows replaces the familiar Start menu with a tile-based Start screen similar to the one used by Windows Phone 7.

screen is touch-optimized, it can also be controlled via keyboard and mouse. Notwithstanding the design changes, Microsoft says the new OS will still offer access to familiar components such as Windows Explorer and the Desktop, and it will be compatible with PCs, software, and peripherals that carry a Win7 logo.

Microsoft didn't offer a release date for "Windows 8," but at a recent developer's conference, Microsoft CEO Steve Ballmer indicated it would "come out next year." To see a video demo of the next version of Windows, visit [tinyurl.com/4x9rl4x](http://tinyurl.com/4x9rl4x).

### Lights Out For Windows Mobile 6.x Marketplace

On July 15, Microsoft is pulling the plug on its Windows Marketplace for Mobile Web site ([marketplace.windowsphone.com](http://marketplace.windowsphone.com)), which lets customers shop for applications for Windows Mobile 6.x-based smartphones. Windows Mobile 6.x users still have the option to browse, buy, and download apps directly from their devices, however.

The company also announced that it's pulling the plug on the My Phone backup service for Windows Phone 6.x. Certain types of stored user data will automatically be transferred from My Phone to Windows Live SkyDrive online storage before the My Phone service shuts down on Oct. 6. For more details, visit [support.microsoft.com/kb/2557520](http://support.microsoft.com/kb/2557520). ■

# Password Genie

Secure Online Password Management

We all have an increasing number of passwords to remember, for everything from financial accounts to forum memberships to any number of the thousands of online applications and services that are available. Remembering unique, strong passwords for all of those accounts is nearly impossible. Further, it's unwise to use the same password for multiple accounts and even more dangerous to jot them all down on a piece of paper somewhere.

Password Genie is a password manager designed to securely save all your user- names and passwords so you don't have to.

## Security Is Job One

Password Genie (\$15 annually; [www.mypasswordgenie.com](http://www.mypasswordgenie.com)) takes the security of your login credentials very seriously. Using a combination of the Password

Genie license key, master account user-name, master account password, and hardware identifiers, your data is stored safely on your computer. It's sent to Password Genie's secure data center via SSL encryption, where it is never posted anywhere online or via a Web site, and is not viewable by any data center personnel, either. And because the information is stored remotely on Password Genie's servers, you can back up, restore, and synchronize your data to multiple computers.

## Features & Benefits

With a single license, you can install Password Genie on up to five computers, so whether you're at work, at home, or on the road, you can access your saved logins from the computer at hand. The Instant Synchronization feature will instantly sync all your

usernames and passwords on all your machines. You can also have unlimited multiple users who can maintain separate sets of usernames and passwords.

Password Genie's password generator will create strong and unique passwords for you to use, and the Bookmark feature makes it easy to bookmark and synchronize your favorite sites. You can create categories for your logins and then organize them accordingly with the Organized Folder View.

Password Genie works on all major browsers, making it virtually seamless to import saved browser passwords during installation. When browsing the Web, you can access your saved logins by clicking the Password Genie icon in the browser toolbar.

And if you need assistance at any time, Password Genie offers free 24/7/365 support (online resources, phone, or chat).

## Android Support

Password Genie for Android is now available, and you can use it separately from your desktop account. Thus, you don't need a full license to use it exclusively on your mobile device, but if you have a full license, you can sync both accounts.

Features of Password Genie for Android also include an auto-lock capability, online self-help and live 24/7/365 phone support, and an easy-to-use user interface. You can create multiple categories for your login information, such as Bank Accounts, Frequent Flyer Miles, and Prescriptions (as well as user-created categories), so that it's all organized and easy to access. Coming this year, iPhone and iPad will support Password Genie, as well. ■



## Password Genie

\$15 annually; 30% off through Sept. 12 for *Smart Computing* readers using promo code SMRT30.

## PASSWORD MANAGEMENT (319) 298-4700 [www.mypasswordgenie.com](http://www.mypasswordgenie.com)

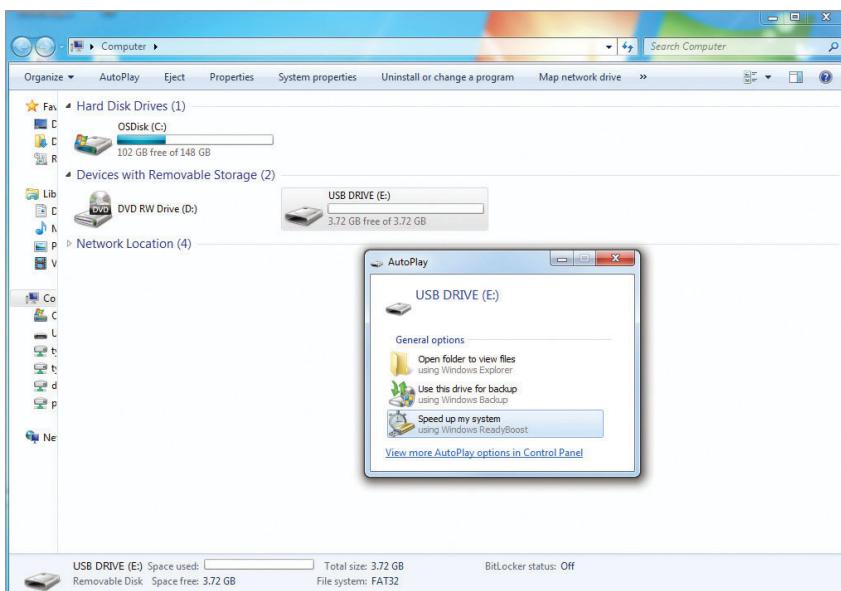
# ReadyBoost

## Supercharge Your PC

Computers can slow down over time for a variety of reasons. For instance, your PC could simply be an older model that doesn't have quite enough memory to run the newest applications and software. Or, you may be running several applications that collectively use a lot of your system memory. Whatever

to compensate. Hard drives have significantly slower read/write speeds than RAM, so you'll notice a drop in performance when your computer starts to run out of system memory.

ReadyBoost gives your computer an alternative to storing certain data on the hard drive. Flash memory



The AutoPlay menu should automatically appear when you insert your flash drive or memory card, but if it doesn't, you can access the menu via your PC's Computer window.

the reason, you may want to find a way to speed up your computer without buying new components or installing more RAM.

Windows 7 and Windows Vista have a built-in feature that lets you use a USB flash drive or memory card to give your computer a bump in speed. It's called ReadyBoost, and it's an easy way to give your computer the extra speed it needs to keep up with you and your software. We'll show you what to look for in a storage device, how to set up ReadyBoost, and provide some tips that will help maximize your results.

### How It Works

PCs have a limited amount of memory (RAM) to use for computing purposes. Whenever your PC needs more fast storage access than your RAM provides, the computer will start to use memory from the hard drive

is faster than the hard drive when it comes to reading and writing certain types of data, so ReadyBoost directs that data to the flash memory. The result is better performance.

### Compatibility

The great thing about ReadyBoost is that it works with almost any flash drive or memory card as long as it has more than 256MB of available storage, but you'll want a storage device with at least 1GB of free space to see solid results. Microsoft recommends that you double or, if possible, quadruple the amount of space you use for ReadyBoost in comparison to your computer's RAM. For example, if your computer has 1GB of RAM, you should find a flash drive or memory card with 2 to 4GB of free space available. Your flash drive will also need to have a read speed of at

least 2.5MBps (megabytes per second) and a write speed of 1.75MBps.

Your USB flash drive has to support USB 2.0. If you can find one that says "Enhanced for ReadyBoost," you can be 100% sure that it will work; however, drives that don't have this distinction may work with ReadyBoost, as well. You can tell by connecting the drive to your computer and seeing if a ReadyBoost option shows up in the AutoPlay menu. If it doesn't, the device might not work with ReadyBoost.

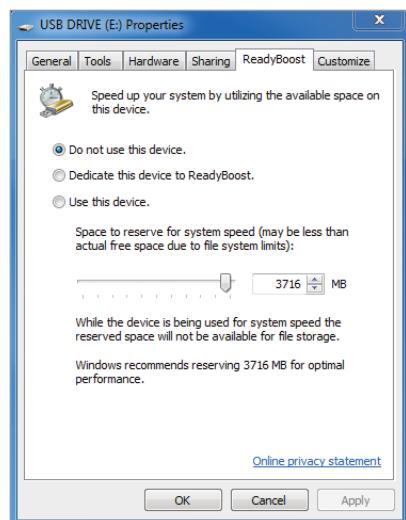
Depending on what type of card reader you have in your PC, you can use many types of memory cards. Although most USB flash drives and memory cards do support the tool, there is always the potential that a USB flash drive or memory card may not work with ReadyBoost because of its formatting or interface. You may have to try a few storage devices before finding the perfect one for the job.

Microsoft says that computers with SSDs (solid-state drives) may not show the option to use ReadyBoost, and you may see the message: "ReadyBoost is not enabled on this computer because the system disk is fast enough that ReadyBoost is unlikely to provide any additional benefit." If you receive this message, there isn't a problem with your flash drive or memory card. It just means that your computer should have enough memory and run fast enough to not need ReadyBoost. In this case, your only alternative to speed up your computer may be to buy more RAM.

## Set Up ReadyBoost

If you are using a USB drive or memory card that already has data stored on it, you should clear it completely or delete as much as you can to free up the necessary space. New USB drives and memory cards should be ready to use right out of the packaging. ReadyBoost works best by plugging the device directly into your computer rather than using a USB hub or other adapter.

Once you have the device ready, you can then insert the drive into the USB port or the memory card into the card slot, and an AutoPlay window should pop up that displays the name of the device and some options for what you can do with it. If this menu doesn't automatically appear, you can go to the Start menu, click Computer, and find your device under Devices With



The ReadyBoost tab in the Properties menu of your storage device lets you configure it to be used with ReadyBoost and determine how much memory you want to dedicate to it.

## Small Devices, Big Performance

When looking for a flash drive or memory card to use with ReadyBoost, it's important to find one with a fast transfer rate. And, as mentioned, flash drives must also support USB 2.0. Here are two examples of storage devices that can be used to help speed up your computer.

### LaCie CooKey

LaCie's CooKey flash drive (8GB, \$29.99; 16GB, \$49.99; 32GB, \$99.99; [www.lacie.com](http://www.lacie.com)) has a sturdy design to prevent it from being damaged during use. It has a fast transfer rate of up to 30MBps, is USB 2.0-compatible, and is guaranteed to work with ReadyBoost. It is also available in multiple capacities so you can dedicate an 8GB CooKey solely to ReadyBoost or get a 32GB model and still have room to store additional data.

### PNY High Speed SDHC Cards

PNY offers a variety of memory cards. One specific line, the High Speed SDHC (Secure Digital High-Capacity) memory cards (4GB, \$14.99; 8GB, \$19.99; 16GB, \$34.99; 32GB, \$69.99; [www.pny.com](http://www.pny.com)), would work well with ReadyBoost because they are available in multiple sizes and have transfer rates of up to 20MBps.

Removable Storage. Right-click the device and click Properties. Finally, click the ReadyBoost tab and you'll be in the correct menu.

There should be a menu option titled Speed Up My System Using Windows ReadyBoost. (If there isn't, then there is a good chance your storage device either isn't compatible with ReadyBoost or it doesn't have enough available space. If you're sure that it's compatible, then you may need to delete more data to make more room. And if your device doesn't have enough space, there may also be a message that will let you know.) Click the Speed Up My System Using Windows ReadyBoost menu, and a Properties menu should pop up with information on how to set up your device to use ReadyBoost.

There are three options in this menu. Do Not Use This Device will make it so that your storage device isn't used for ReadyBoost but can be used to store other data instead.



The LaCie CooKey not only has an eye-catching design, but it also has a fast transfer speed and is guaranteed to work with ReadyBoost.

This is the option you'll want to select if you want to stop using your flash drive or memory card for ReadyBoost and want to repurpose it.

The second option is Dedicate This Device To ReadyBoost; selecting this will let Windows use all of the available space on the device to help speed up your computer. If you choose the third option, Use This Device, it will automatically set the amount of storage space used to the recommended amount for the best possible performance. But, if you want to adjust the amount of storage space dedicated to ReadyBoost yourself, you can use the sliding scale to do so. After you make your selection, click OK and Windows will configure the device. Any leftover space can then be used to store any additional data.

With Windows 7, ReadyBoost can support multiple storage devices adding up to a total capacity of 256GB. You can use up to eight storage devices total, as long as you have enough inputs to support them. ReadyBoost can use a maximum of 32GB of free space from any one device. Microsoft warns that flash drives or memory cards that are FAT32 formatted can only offer 4GB of memory for ReadyBoost to use. Keep in mind that you may only need to add a fraction of the maximum amount of storage possible to see the best results. Continuing to add devices after this point is unnecessary because there may not be a noticeable increase in speed.

### Get The Most Out Of Your Existing PC

Using ReadyBoost with your computer can help increase its performance and help make you more productive. And although ReadyBoost's effects won't be as powerful as those from upgrading RAM, it may give



PNY's line of High Speed SDHC memory cards offers storage capacities of 4 to 32GB and has transfer rates of up to 20MBps, which is great for ReadyBoost.

you just enough of a performance increase to run the programs you need and save money from not having to upgrade your computer's components. |

BY JOSH COMPTON

# BUSINESS TECH

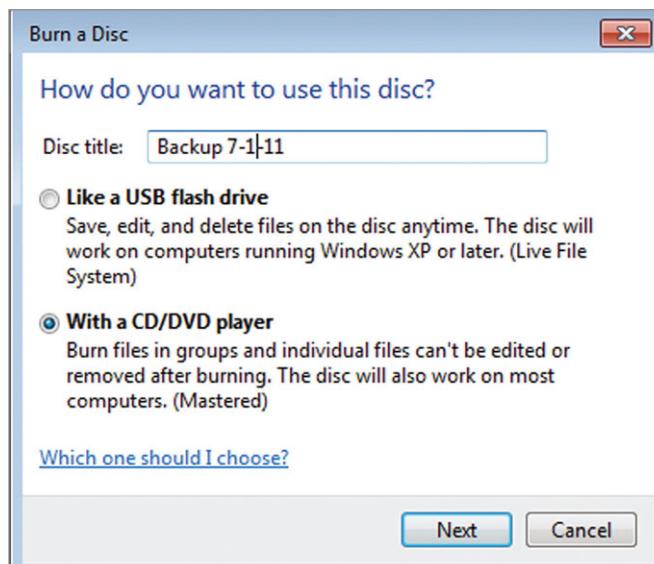
## Burn Data To Disc

Any good business backup advice will tell you to store a copy of important data offsite. Your company can't have all its eggs in one basket, so to speak. If your only copies of your business data are housed in a single building, what happens if there's a fire or flood?

Offsite backup can take several forms. Online storage is an attractive option these days, despite the occasional news story about an outage or security breach. Even taking home a thumb drive every night is better than nothing, even if it's kind of risky.

For serious offsite protection, however, you might prefer a weekly trip to your bank's safe deposit box to drop off a backup on some form of portable media. And to avoid the temptation to overwrite the backups of previous weeks—as you might if you use a portable hard drive as a backup device—consider using write-once, recordable DVDs, CDs, or BDs (Blu-ray Discs).

Optical discs are inexpensive, after all. They're also impervious to strong magnetic fields, which can corrupt the data on a portable hard drive. Likewise,



For maximum compatibility should you ever need to access your business backups on another computer, always burn discs using the Mastered option (somewhat confusingly called With a CD/DVD Player in Windows 7).

they don't break when you drop them—another hard drive vulnerability. It's possible to scratch a CD/DVD/BD, of course, but if you're careful to handle them by the edges, store them in cases or sleeves, and refrain from setting them down bare on anything but a drive tray, you shouldn't have many problems.

Before we talk about the basics of writing data to disc, let's do a quick brush-up

on CDs, DVDs, and BDs in general. Optical media can be confusing, so let's lay out each topic one by one.

### Optical Discs Exposed

A CD/DVD/BD-writing drive uses a laser to burn pits, or dark spots, in a disc's recording dye layer. That's why people refer to writing data on an optical disc as "burning." Later, optical drives can use lasers on lower power settings to read the pitted and unpitted areas (lands) of the dye layer as the 1s and 0s of binary data storage.

There's a reflective layer above the dye layer. Usually made of aluminum, the reflective layer bounces the laser back to the drive's read head when there's no pit in the way. This is why the data side of an optical disc looks kind of like a mirror.

CDs, DVDs, and BDs are all the same physical size, which makes manufacturing easier. In order to store more

### Optical Disc Formats

	Capacities	Recordable	Rewriteable
CD	650MB, 700MB	CD-R	CD-RW
DVD	4.7GB, 8.5GB*, 9.4GB**	DVD-R, DVD+R	DVD-RW, DVD+RW, DVD-RAM
BD	25GB, 50GB*	BD-R	BD-RE

\*Double-layer

\*\*Double-sided DVD-RAM

data than CDs, DVDs and BDs use lasers of different colors (wavelengths), which can create finer pits. CDs store 650MB or 700MB; DVDs can hold 4.7GB or 8.5GB (DL [dual-layer] discs with two recording dye layers); and BDs have capacities of 25GB or 50GB (DL). Mini versions of each have less storage space.

Note that you can't modify the data on a store-bought movie DVD/BD, audio CD/DVD, or software CD/DVD-ROM (read-only memory), as these types of discs don't contain recording dye. Instead, their reflective aluminum layer is stamped with an indelible pattern of pits and lands.

## R, RW & RE

Optical discs are considered either recordable or rewriteable. You can only write data once to the dye in a recordable disc. Mind you, you can record multiple data sessions to a particular disc if you didn't completely fill it the first time.

Recordable discs have 'R' suffixes, as in CD-R and BD-R. There are actually two standards for recordable DVD: DVD+R and DVD-R. The only practical difference between the two is that certain playback devices (and a few ancient DVD burners) prefer one or the other.

With a rewriteable disc, you can erase data and overwrite it with new information. The secret is a recording dye that can be changed to two unique states (amorphous or crystalline, to be technical) when the drive's laser operates at different power levels. Thus, the dye can be "burned" to act as a pit or returned to its original state as a land. Types of rewriteable media include CD-RW, DVD-RW

## Optical Media Speed Ratings

	1X (Mbps)
CD	0.15
DVD	1.35
BD	4.5

and DVD+RW (plus their forerunner DVD-RAM), and BD-RE.

While rewriteable media sounds like a great way to go, its mutable nature doesn't quite jibe with record retention regulations that mandate permanent records of business data, such as on recordable media of the WORM (write-once, read many) kind. Also, rewriteable media has a history of compatibility issues among drives and devices.

**Drives.** Optical drives that can only read discs have 'ROM' suffixes, as in BD-ROM. Note that with few

Predictably, the drives that can write data, in addition to reading it, are called burners. They may be marketed with rewriteable format suffixes, as in a BD-RE drive or a DVD±RW (a burner that can write both DVD+RW and DVD-RW). All burners can read the formats they write, and they're backward-compatible. For example, a BD-RE can both read and write DVDs and CDs.

There's a third type of drive called a combo. Historically, this is a burner that can also read one format newer than it can write. For instance, a BD-ROM/DVD±RW combo is a DVD burner that can also read BDs, while a DVD-ROM/CD-RW combo is a CD burner that can play DVDs.

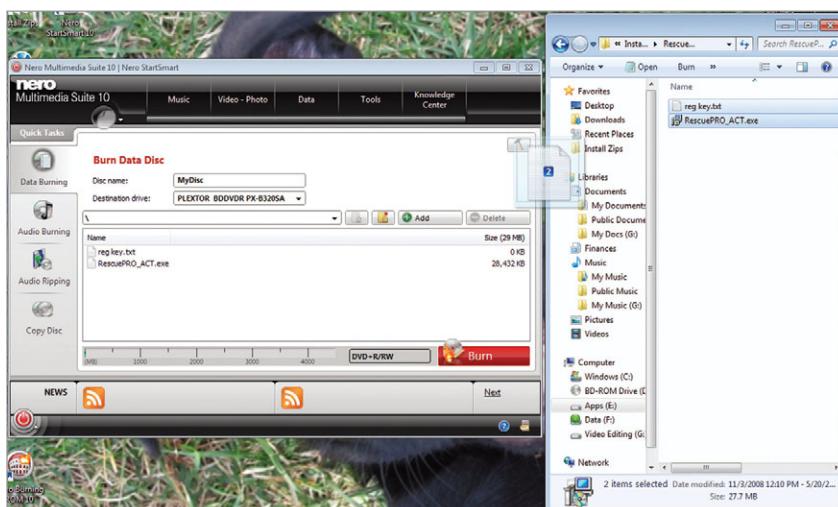
Internal optical drives use a SATA (Serial Advanced Technology Attachment) or IDE (Integrated Drive Electronics) interface. External drives typically come with a USB cable and an AC power adapter.

**Speeds.** Blank discs and drives are both rated by their maximum data transfer speeds, such as 22X DVD writing and 48X CD reading. An 'X' varies by the type of media: 1X CD is

150KBps, 1X DVD equals 1.35Mbps, and 1X BD is 4.5Mbps. As an example, 4X BD equals 18Mbps. Note that optical drives only hit max speeds when reading or writing the last files on a full disc.

## Burning

Once you've decided to copy some files to CD/DVD/BD, the trick is to do so in a way that will make the discs accessible in any



Nero's StartSmart gives you drag-and-drop access to a number of basic disc-related tasks.

exceptions, drives are backward-compatible with earlier disc formats; therefore, a BD-ROM drive should also read DVDs and CDs with no problem.

other computer later on. In all of the following instructions, we'll assume you've placed an appropriate, blank disc in your burner. First, we'll show you how to burn data via Windows

## ISO Disc Image Files

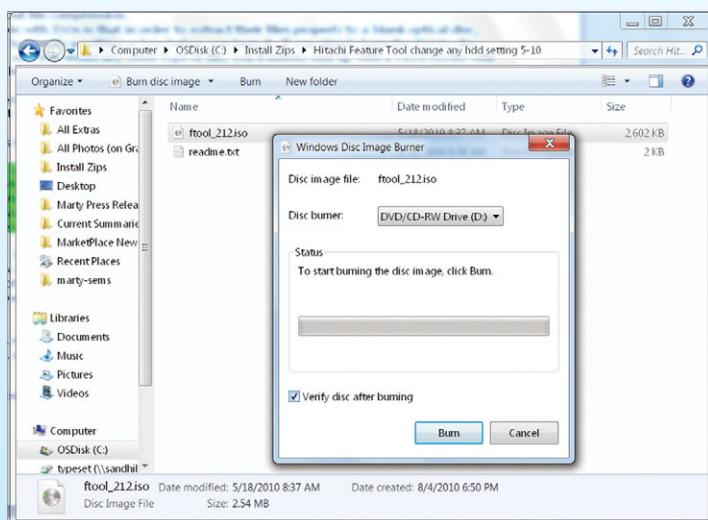
Some software comes as an ISO file. An ISO is a type of disc image file that contains all the files necessary to make a CD, DVD, or BD, such as a bootable utility disc for OS installation, virus removal, or hard drive partitioning. You can think of it as an archive file like a ZIP, only without file compression.

The trouble with ISOs is that in order to extract their files properly to a blank optical disc, you need to specify a setting or two before you burn it. If you simply burn an ISO to disc the same way

you would any other type of file, you'll merely end up with a CD/DVD/BD with the ISO file on it.

**Windows 7.** Fortunately, Windows 7 has built-in support for burning ISOs to disc. Right-click an ISO file and select Burn Disc Image. (If Burn Disc Image isn't an option, click Open With and Windows Disc Image Burner.) Click Verify Disc After Burning and then click Burn.

**Nero.** To do this in Nero 10, launch StartSmart. Click Data and then select Burn And Copy Data – Advanced. Click Cancel to close the New Compilation window and then click Recorder and Burn Image. Find the ISO



The trick to turning an ISO file into a usable disc lies in burning it as a disc image.

7's built-in utility and then we'll show you how to do the same with a popular burning program, Nero Multimedia Suite 10.

**Win7.** To write files to disc in Win7, drag and drop them on your burner's icon. Alternatively, right-click them, click Send To, and select your CD/DVD/BD writer. And if an AutoPlay window pops up when you put a blank disc in your drive, you can click Burn Files To Disc.

By default, Windows burns some discs with its Live File System, known generically as Mt. Rainier recording. It's meant to make optical discs as convenient to use as USB flash drives or hard drives. However, discs formatted with Live File System may not be readable in all computers. Opt for the With A CD/DVD player setting to make a Mastered (traditional) disc, and then click Next.

Windows will copy your files to a new folder, but it won't write them to disc just yet. If you change your mind about a file, delete it from the list. (Don't worry: As long as you're deleting a file with a down arrow icon, it's a copy, not the original.) Finally, click Burn To Disc and Next.

**Nero.** In Nero Multimedia Suite 10 (\$69.99 and up; [www.nero.com](http://www.nero.com)), you can perform simple tasks such as basic data burning right in Nero's StartSmart application launcher. (We reviewed a similar Nero application on page 29 of the July issue.)

Open StartSmart and then click Data Burning. Change the Disc Name if you like and set the Destination Drive to your burner if you need to. Next, click the Go To Options icon (it looks like a hammer). Occasionally, a blank disc will have a flaw, so check the

file and click Open. Next, click Verify Written Data. Finally, click Burn.

box marked Verify Data On Disc After Burning and click OK.

Now drag and drop files under Name or use the Add button to browse for files you want to burn to disc. When you're ready, click Burn.

Afterward, test your finished disc by opening a few random files on it. If errors occurred, re-burn the data on another disc at a reduced writing speed and/or change brands of blank media.

### Learn To Burn

All in all, write-once optical media's price, capacity, and portability makes for a great business data backup regime. You can also burn your own video and audio entertainment to disc, but that's a whole nother topic. ■

BY MARTY SEMS

# Take Note

## The Venerable Planner Goes Digital

**T**ime was, people kept their work and home lives organized in bulky notebook-sized planners; later, many went the digital route with palm-sized PDAs. Although some people still rely on those methods, there are myriad options for keeping calendars, contacts, appointments, notes, and to-do lists organized digitally and synchronized across computers, the Web, and smartphones and tablets.

You likely already use some of these tools, but there are plenty of others out there that offer additional functionality. Let's take a look at various categories of productivity and what's available for each.

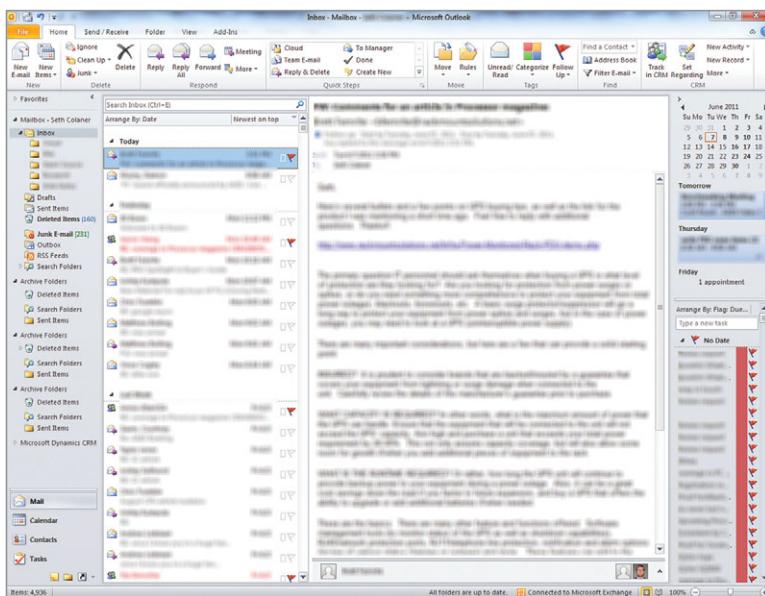
### What You (Probably) Already Use

There are a number of programs that many people use on a regular basis that are equipped with planner-type functionality—and often, those capabilities go unused.

For example, although Microsoft Outlook ([www.microsoft.com](http://www.microsoft.com)) is an email program, it also integrates fairly powerful calendar features and contact management tools. It's easy to add appointments, schedule meetings, and more in the calendar, and you can quickly add invitees from your contacts. In the Contacts area of Outlook, you can add new contacts, create contact groups, and more. Outlook even has a Tasks area where you can add, edit, and remove to-do items pertaining to your email messages. Depending on your company, you may be able to access your

work email via a Web version of Outlook, and you may be able to sync your work emails to your mobile device.

Mac users also have a fairly unified digital planning package built right into the operating system as well. There's iCal,



Microsoft Outlook provides an impressive digital planning solution along with its primary purpose as an email program.

the built-in calendar application, as well as Mail. The latter is not only an email program; it also includes Notes (which is essentially the same thing as the Notes app on iOS devices), as well as a To Do list. To manage all your contacts, Macs use Address Book. You can sync all of these tools with each other and with other accounts, such as Gmail or Yahoo! Mail, and assign various notes and to-dos specifically with those accounts.

You can sync the whole shebang with your iPhone or iPad, and you can also get powerful Web-based access for those tools if you have an iCloud account from Apple.

If you have a Google account ([www.google.com](http://www.google.com)), you already have a complete set of digital planner tools at your disposal for free. Gmail is handy for communicating, obviously, but it also includes contact management capabilities and a tasks list.

All the while, your Google Calendar is just a click away. For even more powerful tools, you can use Google Apps for Business ([bit.ly/9HI1Lc](http://bit.ly/9HI1Lc)), which is \$5 per user account per month or \$50 per user account per year.

Because it's based entirely on the Web, you can access these tools from anywhere you can get an Internet connection on any computer. There is also a smattering of smartphone and tablet apps that essentially act as glorified shortcuts so you can reach your preferred application with a single tap.

There are plenty of other services you likely already use to help you or-

ganize your life, and many of them probably take the form of email-with-benefits. But there are numerous other tools and services available; some are all-in-one type solutions that incorporate everything you need into one package, while others are standalone applications designed to just do one or two things well.

### (Mostly) All-In-One Tools

Finding an all-in-one planner solution is like having dinner at a huge buffet; there's something for everyone, but you need to spend some time deciding which entrée you want. Sometimes, you just need to try a lot of them out before making a

# Computers & Electronics

final decision, and that's probably your best bet with the below tools. All of these either have multiple uses built in or connect with a service that does, such as Google Apps.

Zoho Planner ([planner.zoho.com](http://planner.zoho.com)) is actually quite similar to Google's suite of apps and includes everything from calendars to document storage to email to CRM—all as online services. Specifically regarding planner-type applications, Zoho offers Calendar, Notebook, Planner, and Mail to accompany all of those productivity, collaboration, and business tools. Accounts are free, but you can add certain functionality for monthly fees that vary according to the particular applications.

Although on its own it's essentially just a task manager, The Deadline ([the-deadline.appspot.com](http://the-deadline.appspot.com)) warrants a spot in the all-in-one category because it integrates with Google Apps such as Calendar and Contacts. Thus, by plugging it in to your Google Apps, it sort of "completes the circuit" and creates a complete digital planning solution, from powerful to-dos to contact management. The Deadline's features include the ability to use Twitter-like hashtags so items in a certain category are easier to get to, the ability to quickly share tasks with collaborators, and the ability to view changes to items.

## To-Do Lists

If all you want is a to-do list application, there are plenty of options, from very simple tools to more robust ones that include note-taking features and other extras.

ToDo.ly ([todo.ly](http://todo.ly)) is a simple but effective online tool that lets you create tasks;

organize them into projects; and add, delete, edit, and otherwise juggle your list of things to do. You can get a free subscription, or you can upgrade to the \$3 per month plan for better features, such as unlimited Notes and Sharing.

Toodledo ([www.toodledo.com](http://www.toodledo.com)) is a to-do list application that also features a built-in calendar; note-taking capabilities; and integration with other tools such as iCal, your Google

have the program send email or SMS reminders, track completed goals, and provide a history of all your completed tasks for reference purposes.

With Todoist ([todoist.com](http://todoist.com)), you can also organize your tasks into projects; other features include smart details like the ability to enter due dates for items in standard English (and Todoist will automatically assign the correct date and time), periodic reminders (daily)



Zoho Planner offers a handy set of features but also gives users access to the many other online Zoho applications.

start page, or Firefox (as a browser extension). It also integrates with your email accounts, to the extent that you can send folders to yourself, receive daily reminders about tasks, and email new to-do items for yourself to your Toodledo account.

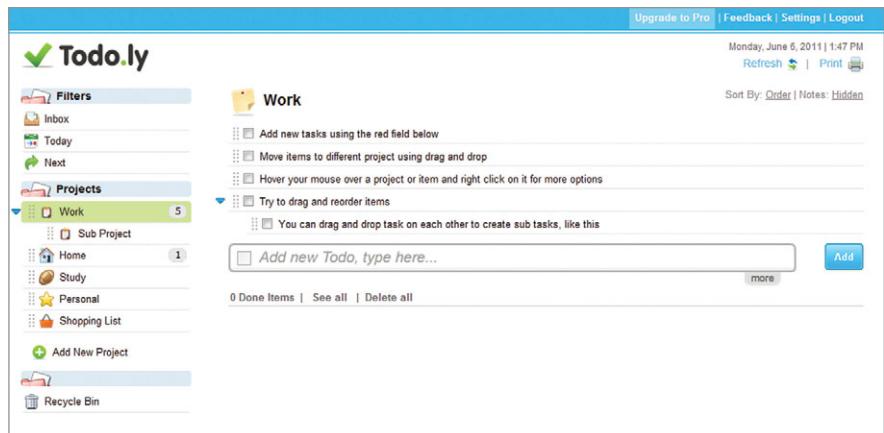
For mobile access, you can reach Toodledo via the mobile version of the Web site or the iPhone app. A basic Toodledo plan is free, but you can upgrade to Toodledo Pro (\$14.95 per year) or Toodledo Pro Plus (\$29.95 per year) for additional features, such as the ability to

of when items are due, and the ability to make custom hotlinks to items within Todoist. You can access your Todoist account via mobile devices as well as via Web browser plug-ins and a Mac Dashboard widget. Todoist accounts are free, but you can upgrade to Todoist Premium for \$3 a month.

There are plenty of others to try out as well, such as Sandglaz ([sandglaz.com](http://sandglaz.com)), Pivity.net ([pivity.net](http://pivity.net)), and Plancafe ([www.plancafe.com](http://www.plancafe.com)), each with its own unique way of facilitating your productivity.

Toodledo is primarily a to-do list application, but it also has a calendar and note-taking capabilities, among other features.

## Computers & Electronics



Todo.ly is a simple online to-do list application.

Microsoft's OneNote (\$79.99; [www.microsoft.com](http://www.microsoft.com)) is by no means a to-do list in the traditional sense, but it's ideal for those who collect thoughts, notes, and ideas and need to keep them stored and organized in one place. OneNote is designed to let you aggregate all the necessary data for a project—in the form of notes, photos, video, links to Web sites, and more—in one place. You

### App-tastic

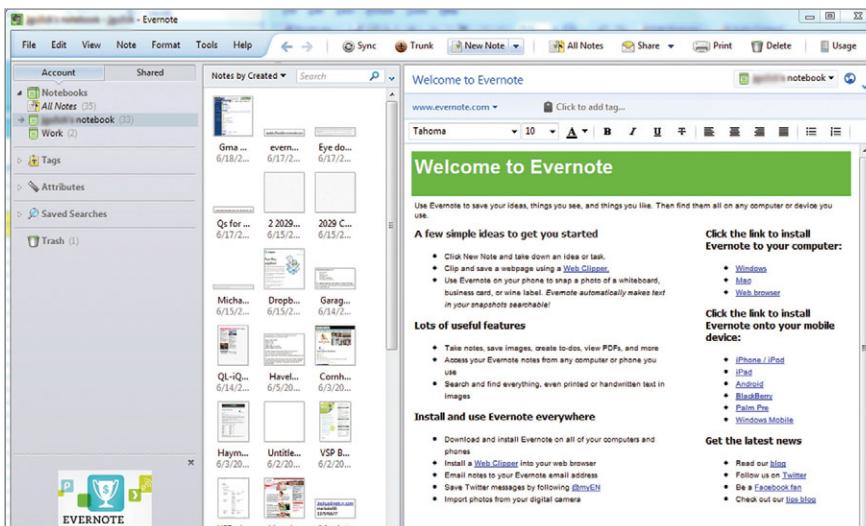
Fortunately, most digital planner tools are Web-based and therefore tend to be accessible from almost everywhere. However, the pinnacle of a mobile-accessible planner involves a mobile app.

In fact, many services are really designed as apps, in terms of layout, design, and navigation, yet also enjoy syncing with an online account. (Thus, you can

You can jot down a note, snap a photo, save a URL, or record a voice memo, for starters. The program is intended to give mobile device users an easy way to store, organize, and track ideas. Thus, an Evernote app is the ideal way to use the program, although it syncs online, where you can access all your notes and to-do lists. A free Evernote account is available to all, and a Premium account (\$5 per month or \$45 per year) gets you larger upload file sizes, the ability to handle a greater diversity of file types, access to notebooks offline, and more.

Another quite powerful all-in-one digital planner solution that is designed as an app is Awesome Note ([www.brideworks.com](http://www.brideworks.com)). Awesome Note is available exclusively on the iPad and iPhone and sports a unique sliding interface to let you swipe through folders, notes, and other items. You have a bevy of options for different ways to view your content, and the various means of organizing your data include a calendar, journal, to-do list, and more. And, of course, you can create notes and attach photos, sketches, locations, and more. You can share or sync your files via Google Docs or Evernote.

The ideal planner is different from person to person; depending on what your needs are and how your mind works, you'll want a different solution than the next guy. Fortunately, most of the above tools have free versions or at least trial versions available; give them a whirl and determine which is the best fit for you. ■



Evernote is designed primarily to be an app, although it syncs to an online account you can access anywhere.

can add as many notebooks, pages, and other items as you like, and the program allows you to add and search for items easily. You can share items and collaborate with others, and with the OneNote Web App and OneNote Mobile, you can access your data from just about anywhere.

access your account and its features online, but the primary way you interface with those tools is via your smartphone or tablet.)

One of the more popular tools is Evernote ([www.evernote.com](http://www.evernote.com)), which is designed to be a sort of organized repository of your thoughts, ideas, and to-do items.

BY SETH COLANER

# Browser Security

Firefox



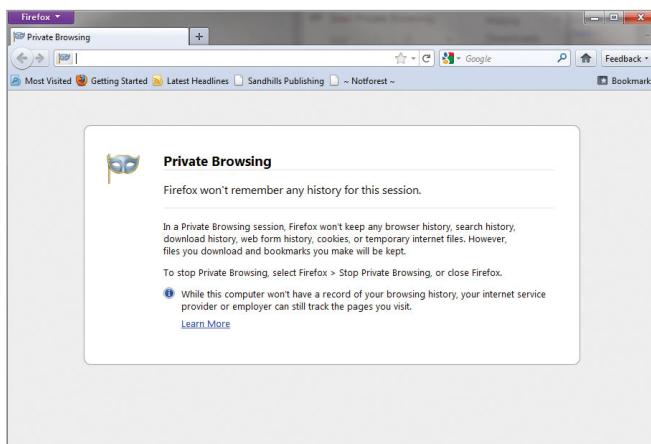
One are the days when your personal information wasn't required to sign up for Internet services and applications. Checking accounts around the Web can leave details about your identity (phone number, checking account, Social Security number, etc.) vulnerable. But fortunately, browser security features are a virtual ally more than ever.

Mozilla has incorporated an armory of protective features in Firefox 4 and has deployed them throughout Firefox 5 to facilitate a secure surfing experience for you. Here, we've outlined what security options are available to Firefox users. Whether you want to browse with barriers in place or manage your history, you'll be able to customize Firefox as your personal Web safeguard.

## Browse Without Peepers

If you've just launched your new consulting business from your home office, you're probably sharing a computer with someone else in the family.

Firefox includes the Private Browsing feature for such scenarios—this setting won't save data associated with sites and pages you visit. Private Browsing also won't save sites in the following



Firefox's Private Browsing mode doesn't store any of your browsing history. Be aware, however, that Firefox saves newly created bookmarks and files you download while in Private Browsing mode.

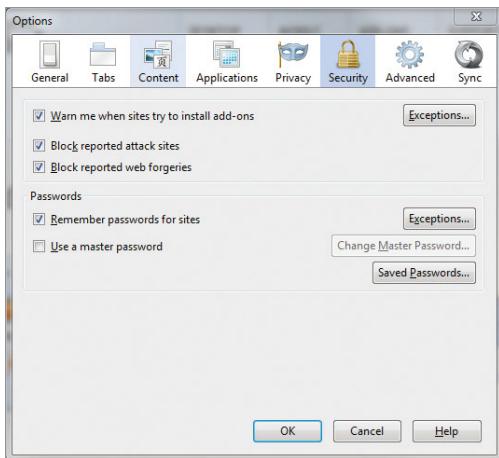
three locations: the History menu, the Library window's History list, and the address list for the Awesome Bar (a search bar that autocompletes queries with Web site suggestions). Text that you enter in autocomplete forms and

the Search bar won't be retained, either. In addition, Private Browsing doesn't save passwords, items recorded on the Download list, cookies, or temporary Internet files (known as cache). In a nutshell, Private Browsing affects what others see regarding your Web surfing habits. What Private Browsing will save for you: newly created bookmarks and files saved to your hard drive. Be sure to remember that Private Browsing doesn't prevent servers from tracking your data.

To turn on this feature, locate the orange Firefox menu button (this menu is essentially identical in Firefox 4 and 5) and click it. Click Start Private Browsing. (Alternatively, you can click Tools and then click Start Private Browsing.) Next, a new dialog box will appear informing you that it will save the tabs from your current session. The Firefox menu button will turn purple during Private Browsing. When you're ready to return to standard browsing, click the menu again, and select Stop Private Browsing. All of your non-private tabs and windows will be restored to the same state they were prior to your Private Browsing session.

Would you like it if a salesperson was attached at your hip all day, and solicited

you every time you changed activities? If your answer is no, then you're going to like the Do Not Track feature. Web sites are allowed to track the behavior of their visitors in order to give that data to advertising companies. But the Firefox Do



In the Firefox Security panel, you can adjust the settings to better protect yourself from malicious Web sites.

Not Track setting alerts sites that you're not OK with them tracking your online activity. Although Web sites are not required to honor this request, those that do are expected not to solicit you.

To inform Web sites that you don't want to be tracked for ads in Firefox 4, click the Firefox button (or Tools menu), click Options, and select Advanced. In the General tab, check the box next to Tell Web Sites I Do Not Want To Be Tracked. To activate this setting in Firefox 5, follow the first two steps and then click Privacy. Next, select the Tell Web Sites I Do Not Want To Be Tracked checkbox.

## Identify & Block Bad News Sites

Firefox is several steps ahead of users when it comes to alerting them about add-ons that automatically install themselves or blocking threats. Within the Options menu you'll find the Security panel—this is where you will adjust settings that affect third-party manipulation of your browser. To navigate to this panel, click the Firefox button and select Options (or click Tools and Options). Then, click the Security lock icon. By default, the following settings will be turned on (represented by a check mark inside the adjacent box): Warn Me When Sites Try To Install Add-Ons, Block Reported Attack Sites, and Block Reported Web Forgeries. For

any site you don't want to prevent add-on installation, click the Exceptions button, type the full URL in the Address Of Web Site field, and click Allow. Lastly, click Close.

Everyone knows that a seemingly harmless Web site isn't 100% secure—cybercriminals can phish (send a scam email to pilfer personal ID information), and you may not have the slightest clue. To help you avoid these types of non-verified sites, Firefox has incorporated the Site Identity Button that provides an instant Web ID. The Site Identity Button appears on the left side of the Address bar, next to a URL that provides security information. Whenever you log on to a site, you will see one of the following three site identity button colors: gray, blue, or green. A gray button signifies that the site is unencrypted; however, that doesn't mean it is entirely unsafe because it may not be a site at which you will disclose sensitive data. When a site features a blue button, the domain is verified by the host because the site owner has purchased a domain certificate. This ID does not confirm the owner of the domain, though. URLs that have a confirmed owner and certify a secure connection will be labeled with a green button. You can click any of the site ID buttons to view

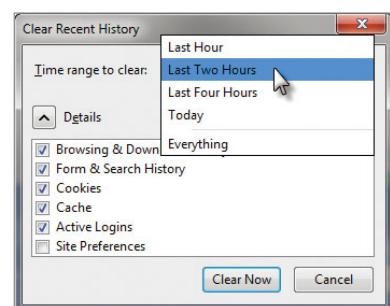
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a site's credentials and whether it has been encrypted.

## Monitor History

Let's say you're sharing a computer with a co-worker temporarily, but you would prefer she didn't have access to the sites you visited or view the files you downloaded. Your recent history creates a record of where you've browsed, what files you've opened, forms you've filled out, Search bar terms, and cookies. It also stores temporary files, active logins, and URL-specific preferences.

To empty all of this history, you can make adjustments to the Clear Recent History dialog box. To do so, click the Firefox button, select History, and Clear Recent History (or click the Tools menu and



Use the Clear Recent History dialog box to select the browsing information you would like to erase and the time frame for how much you want to clear.

select Clear Recent History). In the Time Range To Clear drop-down menu, select how far back you would like Firefox to erase your history. You can also choose the data you would like Firefox to clear. Checkmark the box next to the items you want to remove and click Clear Now.

## Control Your Browser

Mozilla has handed over the reins to Firefox users to control and monitor personal browser security so they don't let Web sites (or cybercriminals) manipulate or mishandle their sensitive data. To be proactive, customize your Firefox browser and take action before a threat becomes an attack. ■

## Update Plug-Ins

**D**id you know that using outdated plug-ins can increase your risk of cyber attacks? Not only that, but they can also disrupt your browsing session. To check for third-party plug-in updates, go to this URL: <http://mzl.la/a6dvn>. Click the Update button next to the out-of-date plug-in and then complete each recommended update. Lastly, restart your Firefox browser.

BY JOANNA CLAY

# Web Tips

## Enhance Your Time Online

### Download Facebook Albums

**Problem:** My Facebook friends post photos I want

**to download. How do I get those photos without saving them one at a time?**

**Solution:** You can take advantage of the Web app called Pick&Zip ([www.picknzip.com](http://www.picknzip.com)), which lets you download multiple pictures from Facebook in a ZIP or PDF file. Click the Login With Facebook button and click the Allow button to

grant Pick&Zip permission to access certain information from your Facebook profile. On the Pick&Zip home page

applicable tab, you can click individual photos or Select All before you click Download. Lastly, click Download

phone towers, cell phone signal strengths, and Wi-Fi access points around the world," provides a visualization of the cellular coverage near a location you specify. Enter an address or ZIP code into the search bar on the main page. Once you click the Search button, a map displays coverage for multiple service providers by recorded

Pick&Zip lets you download batches of photos from Facebook friend Profiles, Groups you've joined, and Pages you like.

signals and by towers. You can configure the map to show only the services in which you're interested.

### Create Web Buttons

**Problem:** I have a friend who finds it hard to navigate the Web. How can I help him?

**Solution:** Sometimes the number of Web sites we access in one day can be quite overwhelming. Any novice Internet user who agrees with this statement will appreciate the simplicity of Internet Buttons ([www.internetbuttons.org](http://www.internetbuttons.org)). Best described as a tool that lets you customize shortcuts to favorite Web sites, you can assign URLs to colorful buttons that are accessible from one page. To create one for your friend, click Set One Up Now and Internet Buttons will take you

you'll see a column in the left side that includes Friends, Groups, and Pages tabs.

When you click one of these tabs and select a specific friend, group, or page, any available photos will appear on the right. For instance, if you select a Group, all of the photos posted on that group's page appear in the selection tool on the right. Under the

My Selection or Download All Photos.

### Find Cell Towers

**Problem:** How can I find cellular service providers that offer good reception near my home and work?

**Solution:** OpenSignalMaps beta ([www.opensignalmaps.com](http://www.opensignalmaps.com)), the growing "comprehensive database of cell

## internet buttons

HELPER BAR ➡️ ✓

### Helper Bar

Set up a page of Internet Buttons for someone else. Each button can link to a site or service you think they might like or find useful.

You can also upload a photo of yourself, your phone number and add a brief message so they can call you if they get stuck.

Just be sure to save what you have done.

Save

If you want we can automatically add Internet Buttons for the person you're helping, by getting them to answer a quiz on their hobbies and interests.

Do the quiz

Need to set up a simple browser interface for a friend or relative? Try Internet Buttons.

or backward through the slideshow. You can also use these controls to pause the slideshow or adjust its speed. Near the top of the Web page, you'll find controls for sharing the slideshow on social networks.

## Manage Multiple Web Sites

**Problem:** My business owns several Web sites. How can I monitor them for uptime?

**Solution:** UptimeRobot ([www.uptimerobot.com](http://www.uptimerobot.com)) monitors your Web sites and alerts you when the sites experience any abnormal activity. To get started, click the Jump In button and register. You can receive alerts via email, SMS (Short Message Service), or RSS

to the page builder. By default, the page includes Search and Email buttons, the settings for which you can modify. Click Edit under any of the empty buttons, click Add Your Own Button, and customize the button so that it will link to a Web site your friend often visits. If you're making this page for a friend or family member, you can import a personal photo and add your phone number to provide a button he can click when he needs in-a-pinch tech support.

## Organize Your Train Of Thought

**Problem:** I'm interested in using a new and efficient method to organize my to-do list.

**Solution:** Thoughtboxes ([www.thoughtbox.es](http://www.thoughtbox.es)) takes the "train of thought" idea and applies it to themed lists in multiple boxes. Thoughtboxes defines a train of thought as a "big topic that could encompass many different thoughts, ideas, and tasks." When you sign up for the Basic (free, but limited)

account, you can store up to three trains of thought. If you know that you'll add more trains of thought, you might consider upgrading to Super, which stores unlimited trains of thought for \$15 per year. With either subscription, you can move your boxes, label them, show them, and color code them in a way that's helpful to you. "Thoughts"

Never lose your train of thought again, thanks to Thoughtboxes. Use color-coded boxes to organize your ideas.

or any items in a list are stored in boxes and can contain links.

## Search For Images

**Problem:** Google Images retrieves so many images that I can't find the image I want.

**Solution:** Try Google Image Slideshow ([www.googleimage slideshow.com](http://www.googleimage slideshow.com)). Slideshow, which is not affiliated with Google, differs from Google Images by displaying search results as a slideshow. To control the slideshow, run your cursor over the Web

page. Several icons, including navigation controls, will appear. Use the navigation controls (at the bottom of the page) to quickly flip forward

(Really Simple Syndication). Twitter-based alerts are on their way, as well. ■

BY JOANNA CLAY

34 August 2011 / [www.smartcomputing.com](http://www.smartcomputing.com)

# The Malware Threat Gets Real

by Seth Colaner

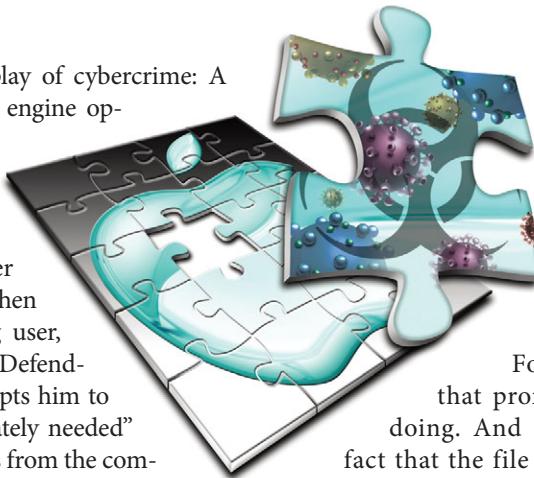
It's an impressive, if classic, display of cybercrime: A cybercriminal uses SEO (search engine optimization) poisoning to artificially push his wares (in this case, MAC Defender, designed specifically to target Macs) to the top of search engine results in order to pose as legitimate software. When clicked upon by the unsuspecting user, the link "alerts" the user that MAC Defender has detected malware and prompts him to download and install this "desperately needed" antivirus software to purge the bugs from the computer. Once installed, the program makes it appear as though the machine is riddled with viruses and prompts the user to buy the fake antivirus software. The user then pays for the software, netting the cybercrook a tidy profit, not to mention the mark's lucrative credit card information.

Were you hearing the theme to your favorite spy movie in your head while reading the above? Perhaps you should have, because that seemingly convoluted process is how lots of baddies take advantage of computer users, make buckets of money, and generally cause mayhem. It's real, and the emergence specifically of MAC Defender is a wake-up call for complacent Apple users.

## MAC Defender & Its Variants

MAC Defender (and its variants, including Mac Protector) is a program that masquerades as an antivirus application. Instead, it itself is the infection, and the goal of the scammer is to get you to "buy" MAC Defender to rid your system of the infection, forking over sensitive financial details in the process. There are other variants on MAC Defender in the wild, all of which do essentially the same thing.

Note that this is really no different than what Windows users have had to deal with for years—fake protection products that are designed to con you out of your money with false alarms.



## Smelling A Rat

As unnerving as a threat such as MAC Defender may be to Mac users who aren't accustomed to malware vigilance, there are some telltale signs that indicate that MAC Defender is a fake, and therefore, as the logic goes, a threat.

For one thing, never trust anything that prompts you to install it without your doing. And if your computer alerts you to the fact that the file you're about to open or install may be dangerous, pay attention.

As with spam mailers, even sophisticated malware makers typically employ the worst spelling, grammar, capitalization, and word flow imaginable. If you see anything that isn't in perfect English, you can bet that it's a threat, and you should avoid it at all costs.

Finally, trust your gut; if there's just *something* about that product or link or file that doesn't seem quite right, you're better off leaving it alone or asking someone with more expertise about it.

## Defending Against MAC Defender

The best way to get rid of MAC Defender is to never get it on your system to begin with.

Fortunately, Apple has issued patches to block MAC Defender and its variants, which is helpful if not foolproof, and the company has also posted a support document for how to avoid or remove the threat at support.apple.com/kb/HT4650.

Anytime you're prompted to install something you didn't specifically acquire, it's probably bad news and you should abort the process. (If you uncheck the Open Safe Files After Downloading option in Safari's settings, your browser will ask you before it runs an installer—this gives you the chance to say 'No.') If the software does make it onto your system, you may need to run antivirus software to get rid of it. ■

As many have predicted, the malware threat for Macs is real.



Images courtesy of Apple.

# Fresh Fruit

## Great Business Apps For Your iPad/iPod/iPhone

by Rod Scher



There's no shortage of impressive applications—some of them free—for Apple's popular family of mobile devices, and many of them are perfect for the home office worker or entrepreneur. Here are our favorite business-related mobile apps for the month. (Unless otherwise indicated, see the Apple App Store to purchase these.)

### Wall Street Scanner

**iPhone   iPod touch   iPad**

Stock apps for mobile devices are getting more and more sophisticated—and many of them are free, including this gem from OnO Apps. Wall Street Scanner aggregates readily available info from millions of Web sites and thousands of other sources to bring you real-time analysis and forecasts displayed in a beautifully intuitive, simple user interface on your mobile device. Wall Street Scanner helps you track your favorite stocks, gauge their momentum, find investment opportunities, and stay informed via timely news and analysis. You can compile lists of your favorite



stocks and track them based on price over time, trending news, and "buzz"—a count of the accumulation of stock mentions in the news, social media and by analysts, comparing today's level with the levels of the last seven trading days. Based on what it refers to as "crowd-sourced intelligence," the app even attempts to predict the next day's stock prices. Handy, informative, easy to use, and free. It's hard to beat that combination.

### FiLMiC Pro

**iPhone   iPod touch   iPad 2**



You knew this was coming. Sure, there are plenty of fairly powerful editing apps for your iPhone still camera, but now the folks at Cinegenix have created FiLMiC Pro (\$1.99), a powerful and versatile video-shooting and editing app complete with selectable frame rates, multiple shooting modes, and four different resolutions. It

even provides audio metering and uses a snap-slate to help you sync with an external audio source. It's not a full-blown videography suite, by any means, and you'll probably want to do more editing after the shoot. But considering that it's running on a mobile device, FiLMiC Pro offers some impressive features. You can save your video locally, if you like, or upload directly to Dropbox, YouTube, Vimeo, Facebook, or an FTP server. If you use your Apple device to shoot video, this is \$2 well spent.

## Live Cams Pro

**iPhone** **iPod touch** **iPad**

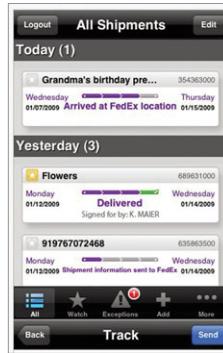


Supporting thousands of IP (Internet Protocol) cameras from hundreds of manufacturers, Live Cams Pro (99 cents to locate and view additional public cameras; \$1.99 to add an unlimited number of private cameras) is the slickest way we've seen yet to keep an eye on the world—or on your home or office. If you have IP cams (or Web cams that can use third-party software to operate in IP mode), this is a great way to add an impressive and affordable layer of security to your residence or business. Once you've entered the IP address of a supported camera, you can watch your property—inside or out—from anywhere in the world, assuming that you have Web access. (Cell access will also work, but video may be jerky, with occasional dropped frames.) The app is free to download, and thousands of public security cameras are already entered and viewable. You can even control any compatible PTZ (pan, tilt, zoom) cameras you encounter.

## FedEx Mobile

**iPhone** **iPod touch** **iPad**

If you run a business—or a life—you probably use FedEx. Here's a simple



way to keep track of all of your shipments: Just enter your FedEx tracking number in the FedEx Mobile for iPhone app (free) to retrieve the up-to-the-minute status of your incoming or outgoing packages. Create notes and watch lists to further customize your shipping experience. And if you're using FedEx Ship Manager, shipments that have been added to My FedEx or tracked with FedEx Desktop can also be viewed and managed via your iPhone. Along with faster performance, recent updates mean that you can track shipments and find FedEx locations without logging in. The app remembers your last tracking number, which makes it easier to update your tracking results.

## Adobe Connect Mobile For iOS

**iPhone** **iPod touch** **iPad**



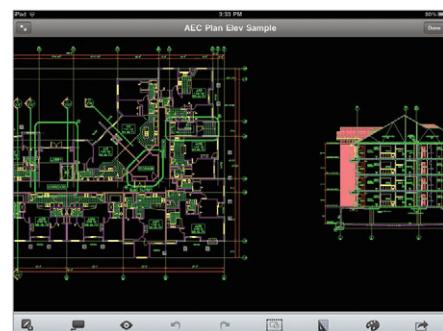
Adobe Connect is a very popular meeting application that allows remote participants to log in and participate in group discussions, presentations, and more. Now you can use your Apple mobile device to attend Adobe Connect meetings. Adobe Connect Mobile for iOS (free) lets you participate in video and VoIP audio conferencing, and permits the use of your device's camera during the conference. The app features a Meeting Overview function that allows you to watch all the activities happening in the meeting at once—or you can tap to focus on a specific meeting activity, such as slide presentations, PDF documents, videos, and screen sharing provided by your host. With Adobe Connect Mobile for iOS, you can join meetings attended by users on virtually any computer system or mobile device. ■

## Noteworthy App Of The Month

### AutoCAD WS

If you use AutoCAD at home or in your office, you can now also use it on mobile devices in the field, with AutoCAD WS (free). The app allows you to view, edit, and share your DWG files (including the ability to move, rotate, and scale your drawings), and lets you work with AutoCAD drawings directly on your device. You can annotate and revise drawings out in the field or while in meetings. The app also lets you work with local versions of your designs when you don't have an Internet connection, and will open DWG and DXF files you receive as email attachments directly on your device. Save your edits directly to an AutoCAD online workspace, and work with colleagues on the same drawings simultaneously. As you'd expect, the app suffers a bit from screen real estate constraints, but overall it's a much more powerful and easier-to-use tool than you might have expected to find on a mobile device, especially for free.

**iPhone** **iPod touch** **iPad**





# Mobile Computing

## WORK ANYWHERE

Can you feel the seismic shift occurring? It's almost impossible not to. In fact, it's entirely likely you're partially responsible for the dramatic transformation taking place and forever obliterating the traditional means by which businesses operate. Yes, we're talking about mobile computing, and whether it's Uncle Jim's home delivery service or Google's global empire we hold up as an example, the monumental impact mobile computing and mobile devices are having on companies can't be overstated.

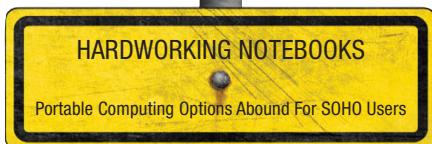
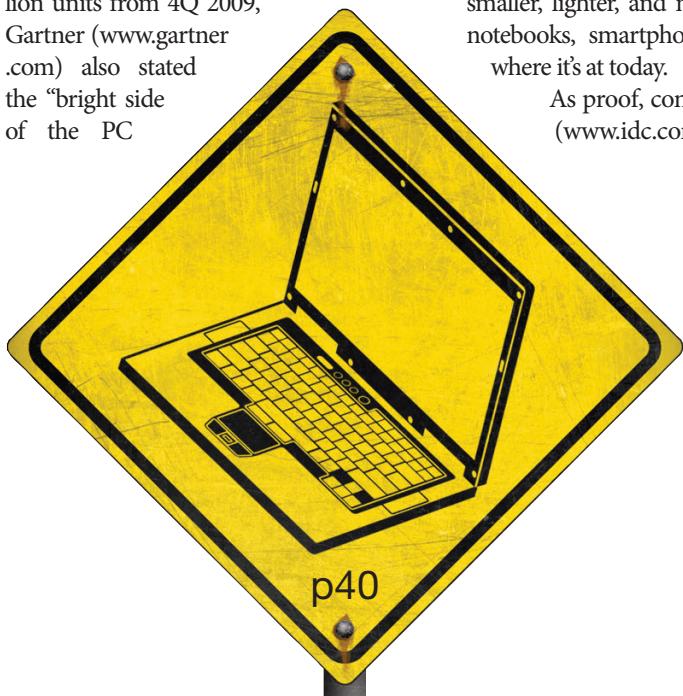
### Meet The New Boss

So we're clear, no one is saying the PC is on its last legs where business usefulness is concerned. In fact, despite reporting that 4Q 2010 global PC shipments increased just 3.1% to 93.5 million units from 4Q 2009, Gartner ([www.gartner.com](http://www.gartner.com)) also stated the "bright side" of the PC

market" for 4Q 2010 was "a steady growth in the professional market driven by replacement purchases." Still, let's be equally clear that business owners who believe they're maxing out their companies' potential by relying solely on PCs are fooling themselves. Deep business integration of smaller, lighter, and more travel-friendly notebooks, smartphones, and tablets is where it's at today.

As proof, consider IDC's ([www.idc.com](http://www.idc.com)) recent

forecast that the global smartphone market will climb 55% this year from 2010 (472 million devices predicted to ship vs. 305 million in 2010). By 2015, IDC expects 982 million smartphones to ship globally. As for the much ballyhooed tablet, you seemingly can't go a day without a new study surfacing documenting the cannibalization of PC sales due to tablet



sales. Where the workplace is specifically concerned, Model Metrics ([www.modelmetrics.com](http://www.modelmetrics.com)) recently reported that 78% of nearly 450 business and IT execs, managers, and professionals surveyed in April stated their companies will officially deploy tablets by 2013's end, while 22% have already done so. Additionally, 72% indicate tablets are being used in their companies, with 49% citing C-level execs as the first to typically bring iPads into the workspace.

"When the iPad was first released, we didn't anticipate that it would replace laptops or PCs," says Dave Dahlberg, Model Metrics CMO. "As such, it's a relatively expensive third device (laptop, smartphone, and now a tablet). It's been amazing to see the adoption well beyond the purchase of the device as a luxury item and the speed to which that has happened."

Further, Dahlberg says businesses are "blown away" when shown proof of concepts for mobile applications created specifically for their companies,

"whether it's a way for a beverage manufacturer to help its sales reps manage store inventory more accurately and efficiently or interactive demos for medical sales reps to showcase products right on the tablet."

Helping mobile devices become mandatory business tools is improved hardware, including dual-core processors supporting multitasking, faster performance, etc.; prevalent 3G (and soon 4G) wireless connectivity; and increased availability of on-demand cloud computing services. Combined, these factors enable employees to oversee inventories, complete transactions, manage hiring and recruiting, collaborate and communicate with colleagues and customers via private and public social networks, and more via mobile devices used on the back deck, hotel lobby, between innings at a ballgame, and anywhere else an Internet connection is available.

Employee insistence on using personal mobile devices for business is

so great that businesses are being forced to deal with the ramifications, including enacting new security strategies to protect company data and addressing company network congestion issues due to the plethora of devices employees are bringing onboard. (Juniper Networks reported that 81% of 6,000 mobile device users it surveyed access company networks without the company's awareness or permission.)

### The Time Is Now

As Dahlberg says, "a new way of thinking" is required by businesses. "They need to be asking themselves: What can we do now that we couldn't before? How can we use mobility to innovate our business and outdistance ourselves from the competition? You have to assume your competitors are asking themselves the same questions," he says. ▀

BY BLAINE FLAMIG



#### MOBILE PRINTERS & SCANNERS

Deal With Documentation On The Road

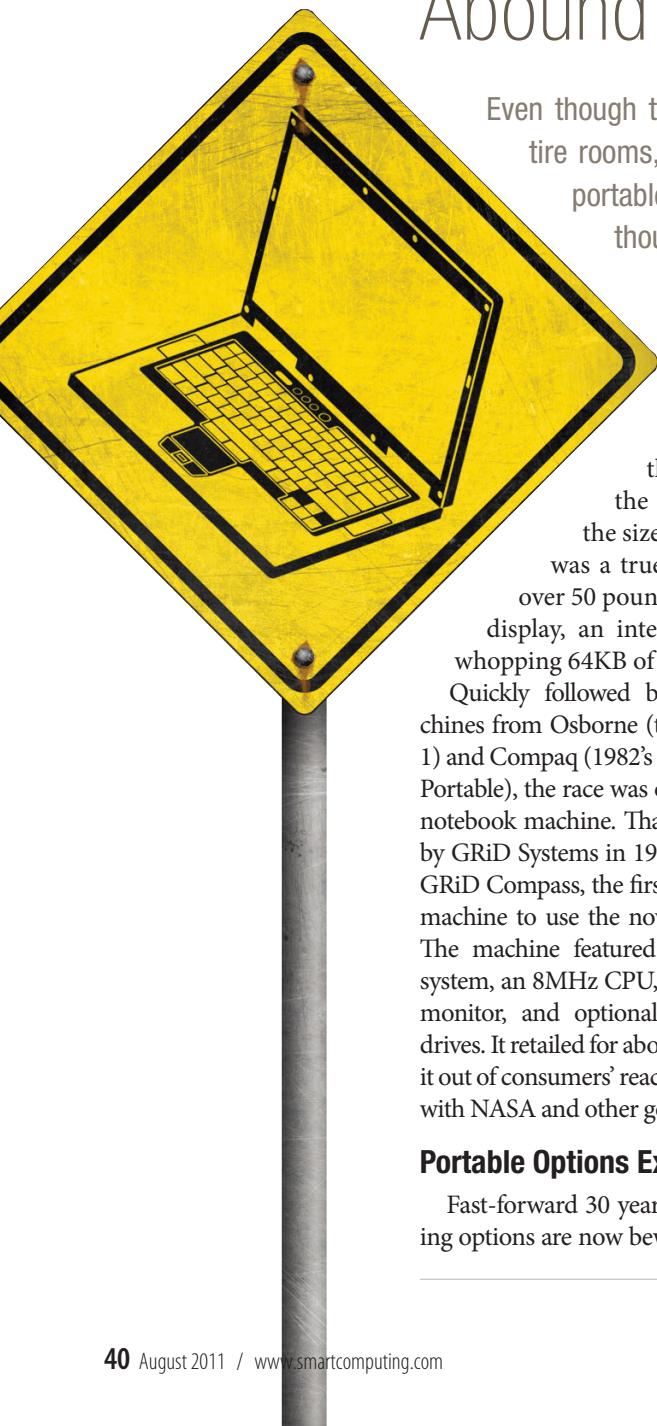


#### MOBILE PAYMENT PROCESSING

A Future Without Wallets

# Hardworking Notebooks

## Portable Computing Options Abound For SOHO Users



Even though the first true digital computers weighed several tons and filled entire rooms, almost from the beginning scientists dreamed of building a viable portable computer. Success (of a sort) would have to wait until the 1970s, though, when miniaturization techniques advanced enough to allow the appropriate components to be crammed into a portable case.

The first commercially viable portable may have been the IBM 5100, which hit the market in 1975. About the size of a suitcase, the system was a true "luggable"—it weighed over 50 pounds and included a 5-inch display, an integrated keyboard, and a whopping 64KB of RAM.

Quickly followed by (barely) portable machines from Osborne (the CP/M-based Osborne 1) and Compaq (1982's IBM-compatible Compaq Portable), the race was on to come up with a true notebook machine. That race, arguably, was won by GRiD Systems in 1982, with the release of the GRiD Compass, the first commercially successful machine to use the now-familiar clamshell case. The machine featured a proprietary operating system, an 8MHz CPU, 256KB of RAM, a 6-inch monitor, and optional dual 5.25-inch diskette drives. It retailed for about \$8,000, a price that kept it out of consumers' reach, although it was popular with NASA and other government agencies.

### Portable Options Expand Dramatically

Fast-forward 30 years. Your portable computing options are now bewilderingly abundant. For

very little money, relatively speaking, you can purchase powerful portables featuring functionality undreamed of back in the early days of those luggable systems. Whether you're running a small business, working for a larger one, or still slogging your way through school, you can find the perfect notebook system—and we'll help.

The first thing to do is to impose a little bit of structure on your vast array of options by defining some terms and explaining the differences among the various flavors of laptops. (Note, by the way, that although we once differentiated the terms based on the size of the machine, today's portable computers are so small and light that most people now use "laptop" and "notebook" interchangeably.)

Because most notebooks and notebook-type machines are at least vaguely similar looking, it may be best to establish our notebook taxonomy based on function, rather than on form, an approach that leads us to examine four laptop "families."

### Desktop Replacements

These are the powerhouses of the portable world, offering as much power and functionality as most desktop systems. (And much more power than that offered by desktop systems of

even a few years ago.) Such machines are more than capable of hosting heavy-duty applications, including professional-level video editing suites, such as Avid Studio (\$169.99; [www.avid.com](http://www.avid.com)). Naturally, they have no trouble at all keeping up with other fairly processor-intensive business-related activities, such as video streaming, desktop publishing, graphics manipulation, and office suites. Almost all machines of this type feature DVD/CD-ROM burners as standard equipment, with Blu-ray drives and burners as popular options. (In general, such systems also make competent gaming machines, although some gaming performance may hinge as much on the type of graphics card included with the machine as it does on CPU power and storage.)

One good example of a desktop replacement is the Lifebook E751 notebook from Fujitsu ([www.fujitsu.com](http://www.fujitsu.com)). Configurable with an Intel Core i7 mobile processor running at up to 2.7GHz, up to 8GB of RAM, and up to a 500GB

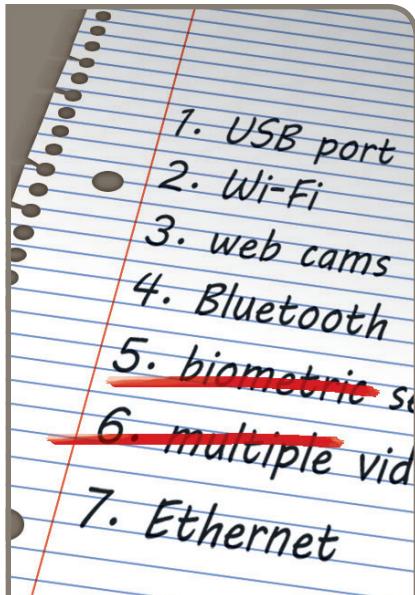
7,200 rpm hard drive, the E751 weighs in at about 5.5 pounds. The 6-cell battery is said to be good for up to seven hours or more (with more powerful batteries available as options), and an optional embedded biometric fingerprint sensor is also available. The system features a 15.6-inch HD LCD that's available with an anti-glare feature. The machine starts at \$949, depending on configuration.

The E751 offers plenty of desktop replacement power in an easily portable system, but there are also other systems powerful enough to replace your desktop machine. For example, Lenovo offers the ThinkPad T520 (starts at \$1,275; [www.lenovo.com](http://www.lenovo.com)), a solid, durable system configurable with an Intel Core i7 mobile processor, up to 8GB of RAM, up to 500GB of storage, and a 15.6-inch display.

### Subnotebooks & Ultraportables

Subnotebooks, or ultraportables, may offer reasonable power (especially com-

**The Fujitsu Lifebook E751 is typical of desktop replacements: Powerful and fast, it is nonetheless easily portable.**



### Features To Consider

- Although using a portable computer no longer means compromising to the extent it once did, laptops are still smaller than desktop machines: There's simply not as much room for amenities and extra features, especially when considering netbooks and subnotebooks.

When shopping for your portable, be sure to decide which features are must-haves and which ones you can do without. All of the following are available, but not all will be present on all machines: USB ports, Wi-Fi, Web cams, Bluetooth, biometric security (fingerprint scanners), multiple video outputs (possibly including an HDMI [High-Definition Multimedia Interface] port), and Ethernet. Typically, business users can do without HDMI, Web cams (unless you're using the system for videoconferencing), and Bluetooth. Wi-Fi and Ethernet connections are a must for connecting to both the Internet and a company network, as are USB ports for connecting peripherals when the laptop is used at the office. A fingerprint scanner adds a layer of protection in case your laptop is lost at the airport or on the road.

pared to that offered by notebooks in years past), but they're mainly aimed at portability and ease of use. The key concerns here are battery life, a conveniently small size, and as little weight as possible. A businessperson on the road may opt to carry one of these simply for convenience—after all, no one wants to lug around more weight than necessary, and these systems are still plenty powerful enough to handle most business-related tasks.

This class of machine may offer smaller displays, but not always: A 13-inch LCD used to be typical, but that is changing as manufacturers find ways to pack larger, lighter displays into smaller machines. Typically, subnotebooks offer fewer connectivity options: Instead of three or four USB ports, for example, a subnotebook

may offer only a couple; rather than the massive 500GB of storage available on many larger notebooks, a subnotebook may instead feature a fast, lightweight (but often relatively expensive) SSD (solid-state drive) with less storage capacity. Some subnotebooks omit optical drives, the idea being that you can always choose to use an external DVD drive or one that's part of a docking station that's usually left behind during trips.

Note that subnotebooks may not always be that much less expensive than larger, more powerful desktop replacement systems. Building something that packs as much power as possible into a smaller package can require manufacturers to use more expensive components than those used in larger machines.

One good example of the subnotebook genre is the Sony VAIO S Series (starts at \$899.99; [www.sonystyle.com](http://www.sonystyle.com)). The S Series laptop weighs 3.8 pounds with a standard battery, includes up to a 500GB drive and a 13.3-inch display, and boasts a battery life of up to 7.5 hours. It is sleek and powerful and easy to carry around in a briefcase or even a large purse.

Apple's MacBook Air ([www.apple.com/mac](http://www.apple.com/mac)) is another good example of a subnotebook. Wafer-thin and feather-light, the Air comes in 11- and 13-inch models and features an Intel Core 2 Duo processor, 64GB or 128GB SSD storage, up to 4GB of RAM, ample battery life, and a beautifully bright hi-res display. The Air starts at about \$1,000, with prices jumping quickly as additional storage and processing power are added, but the

## Laptops & Notebooks: A Recap

Just in case you're having trouble keeping your options straight, here's a handy table that lists the types of laptops and some of the features typically offered by each.



TYPICAL NOTEBOOK TYPES & FEATURES

	Processor	RAM	Storage	Display	Additional Features	Examples
Desktop Replacement	Intel Core i5 or higher, AMD Phenom	4GB+	500GB+	15 to 17 inches	HDMI output; DVD write, Blu-ray read, Bluetooth; 4 to 6 USB ports	Dell Inspiron, Fujitsu Lifebook E751, Lenovo ThinkPad T520
Subnotebook, Ultraportable	Intel Celeron; Intel Core i3 mobile or higher; AMD Athlon II	2GB+	320GB+	13 to 15 inches	Bluetooth, 2 to 4 USB ports	Sony VAIO S; Toshiba Satellite
Netbook	low-voltage Atom or similar	1GB	SSD or HDD, 160GB or less	9 or 10 inches	2 USB ports, external video	Asus Eee PC 1001P Seashell; Dell Inspiron Mini
Tablet, Convertible	Intel Core i3 mobile; low-voltage Atom or similar	1GB to 4GB	16GB to 32GB	9 to 12 inches	HDMI output; touchscreen	Apple iPad; Samsung Galaxy Tab; Lenovo ThinkPad X Series Tablet

*Note that as ultraportables become more powerful, the line between them and desktop replacement machines begins to blur. There will come a time (perhaps very soon) when the differences between the two types are negligible.*

steep price hasn't dissuaded Mac fans from snapping up this beautiful and functional little machine.

## Netbooks

Netbook systems are small and lightweight, with less of an emphasis on power and features, and a correspondingly greater concern for portability, Internet access, and affordability. Often available for \$300 or less, these little computers offer few amenities and minimum ports and storage options. Don't count on the presence of an optical drive, game ports, Bluetooth, or any of the more powerful CPUs. A 10.1-inch display is typical, RAM often tops out at 1GB, and storage may be limited to a 160GB hard drive or a somewhat smaller SSD.

But don't let the netbook's small size and lack of frills put you off. If what you need is an affordable, easily portable way to work on short documents, send and receive email, and surf the 'Net, this may be all the machine you need. You get Wi-Fi, an Ethernet port, a lightweight version of the latest Windows or Linux OS, and (somewhat surprisingly, perhaps) a built-in Web cam. For the price, you simply can't beat a netbook for fast, easy, affordable computing when your needs are minimal.

The Asus Eee PC 1001P Seashell (\$299.99; [www.asus.com](http://www.asus.com)) is a typical example of the netbook genre, with an Intel Atom processor, 1GB RAM, a 160GB hard drive, and a built-in Web cam.

## Tablets & Convertibles

The tablet market was revived (some might say redefined) by the release of Apple's enormously popular iPad ([www.apple.com/ipad](http://www.apple.com/ipad)). A tablet is larger than a phone or PDA (personal digital assistant) and features a touch-screen; by definition, slate-type tablets lack a physical keyboard, although most provide some facility for connecting a wireless keyboard of some

## Chromebook: The Web-Based Laptop

- Google's Chromebook ([www.google.com/chromebook](http://www.google.com/chromebook)) boots quickly (going from completely off to ready to go in about 10 seconds) and is affordable, secure, easy to use, and always up-to-date. In effect, it's a "thin-client" system, with very little processing done locally; instead it uses Web apps, which run in a browser-like operating system. (Not surprisingly, the operating system looks and acts much like Google's popular Chrome browser.) Thus, a Chromebook requires Internet access (via Wi-Fi or 3G cellular) to be truly productive. Chromebooks are available from Samsung and other hardware manufacturers, beginning at about \$430 (for Wi-Fi only) or \$500 (for Wi-Fi plus 3G). If you spend much of your time on the Web, a Chromebook may be a viable laptop option.



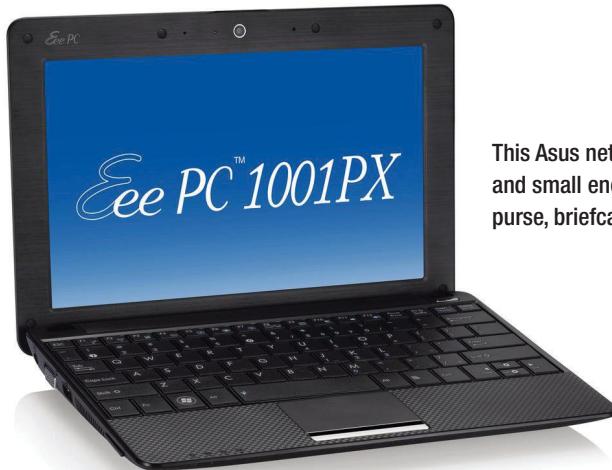
The Sony VAIO S Series machines feature Intel Core i5 processors—plenty powerful enough to take on almost any typical job.

type. Tablets typically feature 9- or 10-inch displays and may not offer the full complement of ports and connectors provided by laptops.

Tablets often run OSes based on those used by smartphones manufactured by the same company. The iPad, for example, runs a version of iOS—an operating system also seen on Apple's iPhone. Similarly, several Android-based tablets run a version of that OS that is largely the same as that running on many Android smartphones.

Generally speaking, tablets are not as powerful or as easy to use in a business environment as are laptops. They may lack the processing power, connectivity, and display options, and peripherals that business users have come to expect may be absent. In addition, the business-oriented software used at the office may not be available in versions that will run on a tablet.

Nonetheless, tablets are, in fact, finding their way into offices, meetings, and boardrooms across the country and around the world. For



This Asus netbook is thin, light, and small enough to tuck into a purse, briefcase, or folio.

## Docking Stations & Port Replicators

- If you're considering a laptop because of its portability, you might also think about a docking station or port replicator to keep on your desk at the office. Acting as your laptop's home base when it's not on the road, a docking station or port replicator delivers a true desktop machine experience by providing additional ports, connectors, optical drives, and other features that may not be present on smaller laptops—but which would be welcome back at the office. Port replicators are inexpensive devices that connect via cable to your laptop, while a true docking station is a more expensive mechanism into which your laptop is inserted; once snapped into place, the dock's additional ports and peripherals are automatically available. When it's time to hit the road—or just head home for the evening, unsnap your laptop, place it in its case, and go. The machine's dock or replicator will be waiting when you return.



presentations, Web and email access, conferencing, and note-taking, a tablet may be perfect.

In fact, the so-called “convertible” tablet is a machine designed specifically to overcome some of the issues common to slate tablets. Convertibles such as Lenovo's ThinkPad X Series Tablet offer many laptop features, but in a machine whose display flips around and folds flat against the keyboard—becoming, in effect, a “slate” tablet that uses a stylus as an input device.

The Lenovo ThinkPad X Series Tablet features an ingenious hinge that allows the display to rotate 180 degrees and then fold flat against the keyboard, converting the system into a slate-type tablet.



Convertible prices vary wildly, partly because some are essentially mobile OS-based tablets with keyboards, while others are full-blown (though small) laptops that happen to have touchscreen-capable displays that fold or flip out of the way. The Inspiron duo ([www.dell.com](http://www.dell.com)) starts at about \$550 while Lenovo's ThinkPad X-Series Tablet (truly a full-blown laptop, with an Intel Core i3 processor and running a 64-bit version of Windows 7) starts at about \$2,000.

## No Shortage Of Choices

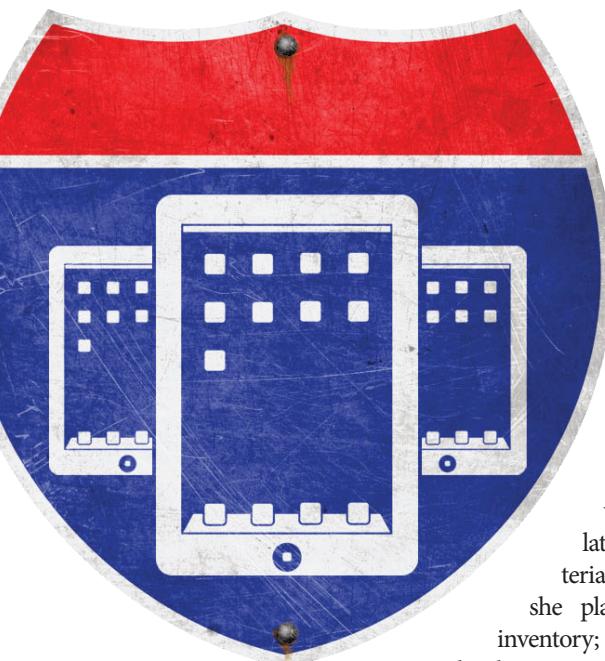
It's nice to have choices, but there are so many types of laptops available that the sheer number of options can be confusing. Now that you have some of those options sorted out, all you have to do is decide what your needs truly are—tempered by your budget, of course—and then determine which machines meet those needs. With the proliferation of notebook systems, you can be pretty sure that there's a portable computer out there that does what you need at a price you can afford. ■

BY ROD SCHER

# Tablets For The Office & Road

## Change The Way You Work

Sally operates Sally's Sunny Daycare in a space she rents downtown. Randy owns A1 Painting, a painting business he operates from his home. Both own tablets, and both benefit greatly from them business-wise. How? In plenty of ways, actually.



Beyond tracking payroll information for Sally's full- and part-time assistants, Sally's tablet enables her to log schedules; access emergency contact information and notes; and create email and weekly newsletters concerning upcoming field trips, lesson plans, drop-off and pickup changes, and holidays. On field trips, she snaps photos and videos with the tablet that she later uses in promotional materials and newsletters. At home, she plans lunch menus; updates inventory; and shops online for toys, books, crayons, and other staples. At story time, she even uses the tablet to read ebooks featuring video and animation.

Randy, meanwhile, used to lug multiple paint and wood stain samples around for coordinating color schemes with clients. His tablet now lets him effortlessly swipe through sample images from multiple paint vendors, plus photos from previous jobs. On the job, he can view blueprints, order supplies, and even catch up on the news at lunch. At home, he can create bids and contracts, order supplies, update inventory, schedule upcoming jobs, and log hours for his four employees.

### Tablets On The Job

Those are just two examples of how tablets are providing practical, time-saving, and efficiency-producing benefits in SOHOs (small and home offices). Interior designers, event planners, architects, home builders, caterers, consultants, freelancers, project managers, salespersons, photographers, and repair shops are among many others. With the increasing crop of tablet apps available, Jeff Zbar, ChiefHomeOfficer.com founder, says all SOHO users could find some benefit from a tablet. "For

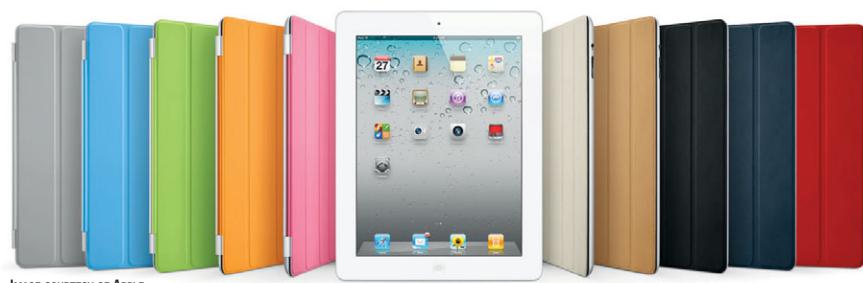


IMAGE COURTESY OF APPLE

Apple has sold millions of iPad tablets in part due to its user interface, sleek construction, and availability of tens of thousands of apps.

those who need directions or log a time card or hours spent on a project for invoicing or display a digital portfolio or show and tell something on the Internet or hold a brief video chat/network with others, etc., it's the near-perfect tool," he says.

Richard Shim, DisplaySearch senior analyst, says SOHO users who already have a primary computer aren't necessarily seeking performance with a tablet. "What they do want is basically faster access to information, and in a small office/home office, you're balancing a lot of

economy is leading small companies to "save in creative ways, like creating virtual offices where employees work from home and conduct client meetings in places like coffee houses." Tablets' portability and Internet connectivity options are perfect "for showcasing a proposal or sharing a demo with a business prospect," he says. "And since most tablets have longer battery life than a laptop, you don't need to worry about finding a seat near a power outlet." Via cloud-based services, he adds, small business owners working frequently

Tablets also heavily rely on Web-based entertainment, gaming, productivity, and communication services accessed via apps and widgets acquired from application stores such as Apple's App Store, Amazon .com's Appstore for Android, and the Android Market.

Currently, Apple ([www.apple.com](http://www.apple.com)) dominates the tablet field, as millions of iPad sales would confirm. Seemingly every day, however, another manufacturer joins the fray with a new tablet model. Notable non-iPad tablets include:

Android-based tablets, such as Samsung's Galaxy models, are noted for their integration of various Google online services.



The TouchPad features the webOS operating system that HP acquired from Palm.



The Motorola Xoom has been well-received for its various specifications, including the ability to record 720p video.

different types of tasks simultaneously. Having faster access to that information allows you to make faster decisions, allowing you to be that much more proactive and productive," he says.

Numerous analysts and industry experts agree that tablets are especially beneficial to businesses that put a premium on visual information. A tablet, for example, can greatly simplify an interior designer's task of displaying patterns, materials, and real-life examples to clients. "The fact of the matter is computing is becoming more visual as we kind of move past just productivity applications," Shim says.

Elsewhere, Martin Frid-Nielsen, CEO of Soonr ([www.soonr.com](http://www.soonr.com)), a cloud-based service for organizing and sharing productivity resources, says the current

in the field are "only a mouse click away from team members and important documents" from virtually anywhere.

### The Tablet For You

What exactly constitutes a tablet differs among those you ask, but generally speaking, tablets are thin, lightweight, wireless devices that sport a touch-based screen in the 7- to 10-inch range. Larger than a smartphone but smaller than a notebook, tablets offer 3G/4G and/or Wi-Fi connectivity, and depending on the model, may include USB and HDMI (High-Definition Multimedia Interface) outputs, memory card slots, an integrated digicam and Web cam, headphone jack, onboard virtual keyboard, and GPS (global positioning system) ability, among other features.

- Samsung's Galaxy models, including the Tab 10.1 (starts at \$499; [www.samsung.com](http://www.samsung.com)) praised for its integration of Google services
- HP's TouchPad (starts at \$499.99; [www.hp.com](http://www.hp.com)), expected July 1 and running the webOS operating system it acquired upon purchasing Palm
- Motorola Xoom (starts at \$599; [www.motorola.com](http://www.motorola.com)), noted for its hardware construction and specifications
- Asus Eee Pad Transformer (starts at \$399.99; [www.asus.com](http://www.asus.com)), which offers an optional keyboard/dock accessory that essentially transforms the tablet into a low-end notebook
- Panasonic Android Toughbook (price not available at press time; [www.panasonic.com](http://www.panasonic.com)), expected later this year with



With the optional keyboard/dock accessory Asus offers, the Eee Pad Transformer essentially becomes a very portable notebook.

embedded hardware security, construction suited for field use, and a 1,024 x 768 XGA (Extended Graphics Array) screen made for outdoor daylight viewing

All tablets share three desirable attributes to SOHO users: lightweight portability, “instant on” startups, and long battery life. Shim sees tablets as a “convenience computing platform” because they “enable things that consumers have said they always wanted.” What “convenience

computing” enables, he says, is for users to have closer interaction with their primary computing devices. Zbar says, “Tablets help SOHOers in much the same ways as they do at bigger companies. They lend agility; a small form factor for ease of use; fast boot up; a robust and growing app universe; and, for the moment, a fun, new way to compute and be productive.”

Frid-Nielsen suggests SOHO users seek a tablet able to transform from a “content-consumption device to a content-creation device.” The tablet needs to react quickly, so look for at least a 1GHz processor, he says. He also suggests long battery life (at least 8 hours); a high-resolution display that’s 7 inches or greater in size; 512MB to 1GB of RAM; an HD camera (video and still) for creating content on the fly; and most important, ubiquitous access to the Internet via Wi-Fi or 3G/4G, which will also allow you storage in the cloud.

### Apple Or Android?

The platform a tablet is built on is another major consideration for SOHO buyers. Although Windows-based tablets will become more prevalent, Apple’s

iOS and Android are the primary choices currently. The iPad is a logical choice for previous owners of iPhone and iPod devices due to familiarity and functionality reasons. Android is a solid option for those who already rely heavily on Google services due to Google involvement in developing Android. One note about Android is that because it’s an open-source platform, manufacturers can tweak their



The Panasonic Toughbook includes construction features meant to withstand use in the field.

implementation to their liking; thus various tablets run various Android versions.

### Room To Grow

Despite the incredible success tablets have enjoyed in a short timeframe, signs point to even better things coming. As Shim says, “We’re not even out of the first inning. We’re just starting to figure out how to use the bat and ball.” Developers are just beginning to build the applications that define this platform. “In lots of cases, the platform can become what the SOHO user wants it to become as long as they’re giving the [app] developers feedback.”

Frid-Nielsen also believes the tablet’s future will be closely intertwined with cloud computing. Combined, he says, the technologies provide SOHO users “freedom to access data and information anytime, anywhere . . . tablets and cloud computing technologies are in their infancy, but I see a combined potential for impact that could easily be bigger than the personal computer revolution.” ■

## An Abundance Of Apps

- Fully maximizing a tablet’s potential means relying heavily on apps, of which there’s no shortage. There’s also quickly becoming an abundance of stores from which to download tablet apps, including Apple’s App Store, Amazon.com’s Appstore For Android, the Android Market, RIM’s BlackBerry App World, Intel’s AppUp, and HP’s App Catalog. Interestingly, HP’s upcoming offering will feature webOS Pivot, a monthly digital publication featuring original content related to apps. All indications are that Microsoft will also have a store for applications available upon the launch of its Windows 8 tablet version, which is expected late this year or early next.

Two popular business-related app examples include Evernote for iPad (free; [www.evernote.com](http://www.evernote.com)) and Splashtop Remote Desktop (free or \$4.99 Android version; \$9.99 iPad version; [www.splashtop.com](http://www.splashtop.com)). A Remote Desktop HD version is also available for Android.

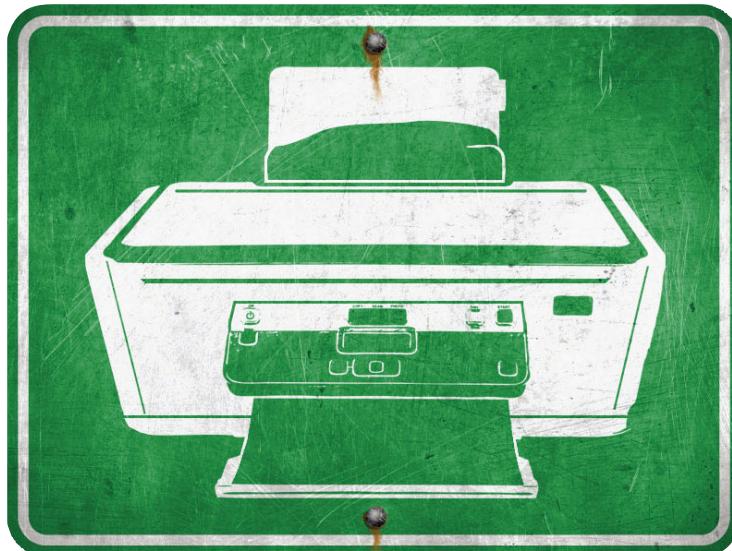
Evernote’s app is tied to the Evernote software (free; \$5 per month for Premium version), which lets users capture, organize, and sync notes consisting of text, Web pages, photos, and more from a PC, mobile phone, or iPad. Thus, a home remodeler can use his iPad to track a textual to-do list, grab design ideas from Web pages, record audio-based notes, capture onsite progress photos, and access a spreadsheet of project costs, all of which Evernote makes searchable. Splashtop’s app, meanwhile, essentially lets a user remotely access and run his PC’s Desktop to access and run content from a tablet, including PowerPoint presentations, email, spreadsheets, Flash-based videos, a full Web browser, videos, audio, and more with Wi-Fi and 3G/4G support.

BY BLAINE FLAMIG

# Mobile Printers & Scanners

## Deal With Documentation On The Road

There's not always a printer nearby when you need one, which can spell trouble when you need to create or copy documentation, invoices, or contracts on the spot. Fortunately, there is a variety of mobile printers and scanners available that are compact enough to travel with. Here, we'll examine the important features to look for when shopping for a portable printer or scanner.



### Mobile Printers

Comparable to a laptop in both size and weight, a mobile printer provides you with a way to print out a copy when you need it. Depending on your printing needs, you may find that some portable printer features are more important than others.

**Connectivity.** What types of devices do you want to print from? Almost every portable printer offers a USB port to connect with a notebook or netbook. Models with PictBridge compatibility let you connect a camera to a printer and select and print images directly from the camera. To connect with wireless devices, such as a smartphone or tablet PC, many mobile printers feature Bluetooth connectivity. For example, HP's Officejet 100 Mobile Printer (\$279; [www.hp.com](http://www.hp.com)) includes built-in Bluetooth to let you send documents and images to the printer from any Bluetooth-enabled device within 30 feet of the printer.

**Print quality.** There are a number of factors that contribute to the overall quality of a printer, but we'll identify a few key specifications to look for. An inkjet printer's detail is often measured by the maximum color dpi (dots per inch) resolution, and the higher the resolution, the more dots that will be used to create the printout. For example, Canon's Pixma iP100 (\$249.99; [www.usa.canon.com](http://www.usa.canon.com)) is a mobile printer with a maximum color dpi of 9,600



HP's Officejet 100 Mobile Printer comes with built-in Bluetooth connectivity to let you print wirelessly.

x 2,400, so each print job could be made with as many as 23 million dots. In determining a portable inkjet printer's color quality, compare the number of ink colors the printer uses. The more ink colors available, the more accurate shades and hues of color will appear in your photos.

There are some mobile printers that use direct thermal technology, which requires special paper that changes color when heat is applied to it. The primary benefit with a direct thermal printer, such as Brother's PocketJet 6 Plus (pricing starts at \$379.99; [www.brother-usa.com](http://www.brother-usa.com)), is that there is no ink or ribbons to replace, which means there are lower maintenance costs than an inkjet model. The downside is that many direct thermal printers are limited to black-and-white prints, so you won't be able to create color photos or brochures as you can with an inkjet printer. You'll find that the dpi resolutions for direct thermal printers are lower than inkjet printers, but because the technology is different, the print resolutions are not directly comparable. You could, however, compare print resolutions among direct thermal printers.

**Power options.** Mobile printers include a standard power adapter, but you may not always have access to a power outlet, so many typically include (or make optional) a battery for portable power. Canon's Pixma iP100 mobile printer has an optional LK-62 (\$99.99) lithium ion battery that can power the printer for up to 290 pages on a full charge. If you work in the car, you may also want to invest in Canon's optional PU-200U (\$89.99)

automobile power unit, which lets you power the Pixma iP100 through the car's cigarette lighter. Some portable printer models are also available with vehicle mounts, so the printer can be set up in your car whenever you need it.

**Speed.** If you routinely print contracts, insurance policies, and other long documents, print speed can be important. HP's Officejet 100 Mobile Printer is capable of printing up to 22ppm (pages per minute) in black and 18ppm in color. The ability to print a multitude of pages in a few minutes means that a client will wait less time for documents that need to be signed or reviewed.



The Pixma iP100 from Canon features a maximum resolution of 9,600 x 2,400 dpi for high-quality prints.

## Your Smartphone As A Scanner

- You have a perfectly good camera on your smartphone, and with the help of an app, you can turn it into a scanner. For instance, DocScanner (\$1.99; [www.docscannerapp.com](http://www.docscannerapp.com)) is an app that lets you take a picture with your iPhone or Android-based phone and email it as a PDF. DocScanner also features OCR (optical character recognition) to recognize text, so you can search for and copy text within the document. An app such as this would also be handy if you want to scan receipts or business cards to ensure that you don't lose the important information. Some apps can scan the content to a cloud storage service so that you can easily share the documentation with friends or colleagues.

**Size and weight.** Although all mobile printers feature a design that's more compact than traditional printers, the device will still take up valuable space and add a few pounds to your travel bag. In addition to the printer, you'll also probably want to carry along paper; USB and power cables; and other accessories. If portability is a primary concern, you might want to check out Brother's PocketJet 6 line, which weighs only 1.3 pounds with the battery. The PocketJet 6 Plus has dimensions of 1.18 x 10.04 x 2.17 inches (HxWxD), and the wide design provides enough flexibility to produce letter-sized documents, while still providing a slim form factor that can fit into your travel bag.

What can it print? Because most business documents are in letter or legal sizes, you'll find that most mobile printers support those paper sizes. Some models also support specialty paper, such as #10 envelopes, photo paper, and card stock, to work with all the media you may need to use when traveling. The capability to print on photo paper is handy if you need to create high-quality brochures or create instant

prints of photos you've recently taken. If you're in a business where the clients need to have the paperwork in hand when you leave, make sure the mobile printer supports the types of documents and content you need to create for them.

## Mobile Scanners

If you travel and need to copy a lot of paper documents, a mobile scanner is the tool for you. Rather than a traditional glass-mount scanner, mobile scanners are sleek and slim bars with a slot where you can feed through the documents you want to scan. The resulting file can be uploaded to your computer and emailed or faxed to your contacts back at the office. We'll detail a few key features you should look for.

**Optical resolution.** When you scan a page, the scanner captures the image line by line using tiny picture elements to create the whole image. The optical resolution is the number of picture elements (expressed as dpi) that are captured within a square inch area. If you require professional-quality scans, you'll want to

compare the optical resolutions of mobile scanners for both color and monochrome. A dpi rating of 300 or higher is typically considered a high-quality scanner. Brother's DSmobile 600 portable scanner (\$149.99) features an optical resolution of 600 dpi, so it can provide detail in important documents, such as invoices, statements, letters, and even pictures. Models with optical resolution of 300 dpi or more give you the freedom to slightly enlarge the content you scan, which may be ideal with photos, receipts, and small documentation.

**Software.** Most mobile scanners also include some software to help you easily create and manage the digital files you scan. And models with OCR (optical character recognition) can identify captured text, which allows you to search and edit information in documents. For instance, HP's Scanjet Professional 1000 (\$249.99) includes Nuance OmniPage to convert scans to editable files. The Scanjet Professional 1000 can create editable PDF (Portable Document Format) files, TIFF (Tagged Image File Format),



The built-in software with HP Scanjet Professional 1000 allows you to send scanned files to the format you prefer.

images JPEG (Joint Photographic Experts Group) images, and Microsoft Word files. HP also includes Nuance PaperPort to help you conveniently archive your scans. If the software is capable of outputting the scan to the type of file you need, you'll save yourself a number of steps when it comes to editing or transferring the file to a colleague.

**What can it scan?** Similar to portable printers, most scanners can handle legal- and letter-sized business documents. For documents that are multiple pages long, some scanners have a continuous document feeder that can scan the pages so that they are saved as one document. Typically, mobile scanners also work with material as small as a business card to make it easy for travelers to retain the pile of business cards they may collect on a trip. Specialized scanners are also available for photos. For instance, Kodak's P811 Personal Photo Scanner (\$139; [www.kodak.com](http://www.kodak.com)) is capable of creating JPEG images from up to 8 x 10 photos, as well as 35mm negatives.



The PocketJet 6 Plus from Brother requires no ink cartridges and weighs only 1.3 pounds with the battery.



With a 600 dpi optical resolution, Brother's DSmobile 600 portable scanner provides high-quality digital copies of documents.

## Final Thoughts

Mobile printers and scanners help make life easier when dealing with hard copy documentation while on the go. Once you've taken a look at the features we've covered, make a list of the ones that are most important to you and find the mobile device that best suits your needs. ■

BY NATHAN LAKE

# Mobile Payment Processing

## A Future Without Wallets

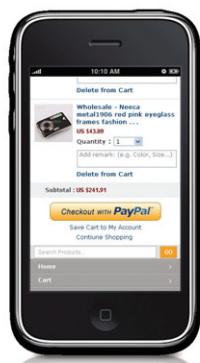
Smartphones have already replaced many of the things we used to travel with, including watches, alarm clocks, MP3 players, and GPS (global positioning system) devices. And a future where a smartphone replaces the wallet by providing mobile payments isn't far off. We're just beginning to see the first wave of tools for mobile payments, and if your business wants to stay ahead of the curve, it may be a good idea to research if adding mobile payments would be a fit for your business.



### How Mobile Payments Work

There are a variety of ways that you can provide for customers to pay on the go. We'll detail each option to help you figure out which one may be best for you.

**Mobile ecommerce.** One of the most common methods is a link or button that's added to your mobile Web site that allows consumers to enter payment information through their mobile phones. For example, online payment giant PayPal ([www.paypal.com](http://www.paypal.com)) provides prewritten code and a button that you can add to your mobile Web site. Avin Arumugam, senior product marketing manager for mobile at PayPal, says, "MEC stands for Mobile Express Checkout, and it replicates the convenience of PayPal Express Checkout onto mobile Web sites and mobile applications. Just like when a consumer comes to a merchandising site, the consumer sees the orange PayPal button . . . and they can log in to their PayPal and check out using the PayPal payment option."



**With PayPal's Mobile Express Checkout, you can add payment options to your mobile Web site.**

To make it easier for consumers, you may want to consider using a popular online payment service because consumers can be assured of the security of the transaction (which you won't have to take care of on your end), and they won't have to bother entering lengthy credit card information. For example, Arumugam says, "People know PayPal is a trusted brand. We've had 12 years of experience with Internet payments. We're 'payments people,' and we bring unmatched risk management and antifraud capabilities—dealing with online payments is what we do." In short, a trusted online payment vendor adds credibility to your payment process.

**Apps.** Another option would be creating a mobile application that customers can download to pay you via their smartphones. For example, by integrating one-click payments, people can search and buy the products available on your Web site. For instance, Amazon.com has released the Amazon App (for iOS, Android, BlackBerry, and Windows Phone 7) that lets you search, read customer reviews, browse related

items, and purchase products directly from your phone. Another example are the Starbucks apps (available for iOS, Android, and BlackBerry) where you can reload your Starbucks card through the app. You can also check your card balance, view your transactions, and track your My Starbucks Reward points.

#### Credit cards on the go.

One of the more interesting mobile payment methods is Square (<https://squareup.com>), which is a miniature credit card reader that you can attach to your phone's audio jack (it supports Android 2.1 or higher, as well as iPhone, iPad, and iPod touch devices running iOS 4.0 or higher) and read credit card swipes. The credit card information is processed by the Square app on your phone. For security, the application is VeriSign Trusted and PCI (Payment Card Industry) compliant, so you can assure customers that the information is safe. Money is deposited into your bank account the next day. Square charges 2.75% per swipe for all credit cards, but unlike most credit card payment services, there are no monthly fees or contracts to sign.

**Wireless point of sale.** The up-and-coming methods of mobile payments are NFC (near field communication) and RFID (radio frequency ID). These two point-of-sale technologies use hardware built into your mobile phone and would be received by a chip-reading device at a cash register or payment area. Transactions are done wirelessly, so there's no need to physically exchange anything with the consumer. Both NFC and RFID use radio frequency waves that transmit information, but NFC devices typically only operate within a short range—often 4 inches or less.

Apple, RIM (Research In Motion; the company behind the BlackBerry), Motorola, HP, Nokia, and Sony Ericsson



Use the PayPal Mobile app to send money using your mobile phone.

have stated that they plan to launch mobile phones with built-in NFC in the near future. For right now, NFC seems to be preferred over RFID because the short-range communication will help prevent hackers from trying to steal your information or clone it for use for themselves. Once the technology for NFC point-of-sale transactions is made

available, it's expected that consumers will be highly interested in adopting the convenient payment method.

**P2P transfers.** If you need to pay one person quickly, such as if you're splitting a bill or want to pay someone back when you don't have any cash on you, there are also options for a person-to-person payment. For example, two people with PayPal could resolve a debt quickly by using PayPal Mobile app to transfer funds. Just open PayPal Mobile app, click the Send tab, enter the amount, and provide the email address or mobile phone number of the person you want to give money to. If the person doesn't have his phone, you could even put in a request to remind him to send the money to you.

#### Why Go With Mobile Payments?

Paying with your mobile phone is the way of the future. For example, in 2010, PayPal saw \$750 million in mobile payment volume from over 5 million users. "Compare that to 2008, where we (PayPal) saw \$28 million and in 2009,

\$140 million. You can see the trajectory. In 2011, we estimate that there will be over \$2 billion worth of mobile payments through PayPal Mobile," says Arumugam. IE Market Research Corporation expects that the gross value of mobile payments, on a global level, will rise to \$1.13 trillion by 2014.

In addition, the mobile payments system is simple to use. Rather than paying monthly fees for the service and each transaction as you typically do with a credit card service, mobile payment systems currently charge you a flat rate per transaction. And there are generally no extra fees if you have too few or too many transactions. A mobile payment system should also process faster than traditional credit card payments because you don't need to print a receipt, have it signed by the customer, and find a place to store the receipt. ■

BY NATHAN LAKE



Square lets you scan and accept credit card payments using your iOS or Android smartphone.

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# Quick Tips

By Stephen J. Bigelow

## SECRETS FOR SUCCEEDING IN COMMON TASKS

### ■ Laptop Shutdown

**Question:** I would like to configure Windows 7 to shut my laptop down when I close the lid. How can I do that?

**Answer:** Most laptops are configured to go into Standby mode when you close the lid, but it's easy to change that behavior. In Windows 7, right-click the battery icon in the

Notification Area. (The Notification Area is also known as the System Tray in older versions of Windows, such as Windows XP). Click Power Options from the dropdown menu and select Choose What Closing The Lid Does from the list of options on the

left. Locate the When I Close The Lid line and change the On Battery and Plugged In options to Shut Down. Click the Save Changes button.

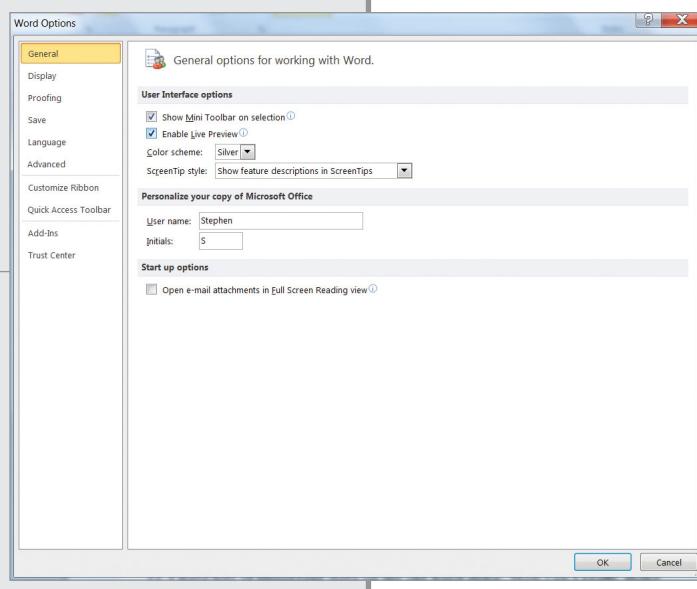
Keep in mind that using the lid to turn off the laptop might not be a good idea under every circumstance. For example, it might be fine if you're using the laptop as a desktop replacement and you only close the lid at the end of the day, but it can be a real hassle if you're actively toting the laptop around from place to place. Try it if you like—you can follow the steps we just outlined (to access the lid controls and reset the power options). ■

### ■ Microsoft Word 2010

**Question:** I like the way my colleague's Word 2010 documents update when I hover the mouse cursor over a feature's icon. What is this called and how can I get my copy of Word 2010 to do that?

**Answer:** That feature is called Live Preview in Word 2010. It's typically enabled by default, but it's possible that another user might have disabled the feature. Launch Word 2010, click the File tab, select the Options button in the left pane, click the General tab, check the Enable Live Preview box, and then click OK to save your changes. Now open a document and try the Live Preview feature by selecting some text and then hover your mouse over one of the styles in the Styles section of the Home tab. The document should update dynamically as you run your cursor over different styles. Move the cursor back to the page, and your text will return to its original state. ■

Enable the Live Preview feature in Word 2010 to see how changes would look—without actually making the change.



### ■ File Shredding

**Question:** I am a consultant. My old PC has client data (much of it already deleted but still somewhere on my system, I'm sure). How can I be certain that any sensitive data is destroyed when I dispose of my PC?

**Answer:** An easy option is to delete all of your sensitive files from the system and use a file shredding tool that is designed to safely overwrite the deleted content from the drive. If you run the tool with a high safety setting (a large number of overwriting passes), your data should be unrecoverable, even to software designed to recover deleted data. Some file shredding utilities are capable of completely wiping the entire hard drive, including the drive's operating system. White-Canyon Software WipeDrive 6 with System Saver (\$39.95; [www.whitecanyon.com](http://www.whitecanyon.com)) is capable of wiping the entire hard drive or preserving Windows and wiping all other files. (See our review on page 29 of the June issue.) ■



CarMD® Vehicle Health System | \$119.85 | [www.carmd.com](http://www.carmd.com)

## Save Thousands With CarMD: The Computerized “Car Doctor”

Is your car safe? Are you driving with hidden problems or the “check engine” light on? Maybe it’s just a loose gas cap or something covered under a safety recall? But what if it’s something more costly? Depending on what type of car you have, just finding out the reason for the warning light can be a costly proposition. Being a prepared, educated car owner can save you thousands. The best way to do this is with the CarMD® Vehicle Health System™.

### How Does It Work?

CarMD uses the same technology as expensive professional scan tools, but is easy to use—no automotive experience necessary! It includes everything you need to use your computer to make sure your car gets the right repairs and help you avoid paying for something you don’t need.

1. Just plug the CarMD handheld device into your vehicle (The CarMD website will show you where you can find your connector under the dashboard on all 1996 and newer vehicles).
2. Within a few seconds, CarMD’s built-in LEDs quickly identify your vehicle’s health (green = OK, yellow = proceed with caution, red = service required).

3. Connect CarMD to your computer using the handy USB link (included). CarMD.com provides you with a complete Vehicle Health Report featuring empowering information to help diagnose the problem. Now you can walk into any repair shop knowing what needs to be fixed (and what doesn’t) and how much it should cost in your zip code.

### Benefits Of Using CarMD

CarMD works on all 1996 and newer cars, trucks, minivans and SUVs—foreign and domestic. It monitors everything that’s covered by a vehicle’s on-board computers, which translates into about 80 percent of the systems ranging from a loose gas cap to a catalytic converter failure. Plus, CarMD customers receive Staying Healthy information, including safety recalls and a list of technical service bulletins for your registered vehicles, which often lead to free repairs.

Purchase also includes toll-free access to Automotive Service Excellence (ASE) Certified Technicians. Lifetime software and firmware updates mean the CarMD product you buy today will work on the car or truck you invest in tomorrow. ■

*“I was leery when the dealership told me that my computer module needed to be replaced for \$1,600. CarMD’s expert auto mechanics and website identified a faulty EGR regulator and total repair cost under \$200. CarMD not only determined what the problem really was, but saved me over \$1,400 in repair costs.”*

— Richard K., Calif.



Smart Computing readers get \$15 off.  
Purchase online at  
[www.CarMD.com](http://www.CarMD.com).

**Use promo code: SmartSave**

Offer expires Oct 31, 2011

\*U.S. Patents # 6,687,584, #6,941,203, #6,947,816

## QUICK TIPS: SECRETS FOR SUCCEEDING IN COMMON TASKS

### ■ Powerline Networking

**Question:** I want to provide network access to a room that my clients use, but my wireless signal is too weak there and moving my router isn't an option. What can I do?

**Answer:** A good option in a situation like yours is to use a set of powerline Ethernet adapters such as the TRENDnet 500Mbps Powerline AV Adapter Kit TPL-402E2K (\$187.99; [www.trendnet.com](http://www.trendnet.com)) to run a reliable network connection to that isolated room. One adapter plugs into a power outlet near the remote PC (and connects to the PC via an Ethernet cable that plugs into the computer's network port). The other adapter plugs into a power outlet near the broadband router and attaches to an available switch port on

the router. Network signals are transmitted between the two adapters over the power wiring that runs through the house. Remember to plug the Ethernet adapters directly into power outlets; avoid power strips with surge suppressors or other circuitry that affects or conditions powerlines. ■

### ■ System Recovery

**Question:** I made a recovery disc for my new PC. Do I need to bother backing up?

**Answer:** The thing to remember is that a recovery DVD basically duplicates the bootable recovery partition located on the system's hard drive. The recovery partition includes Windows and drivers, but does not store any data you create or programs you install: It's not a backup of the system's current state. Once you create the recovery DVD, there is no need to create another one later.

The big challenge with any sort of recovery tool is the problem of diminishing returns. After all, once you recover the system to its factory-fresh state, you still need to reinstall all of your applications and data from scratch. That can be a frustrating and time-consuming process. It is often helpful to periodically create complete backups. ■

### ■ Security Settings

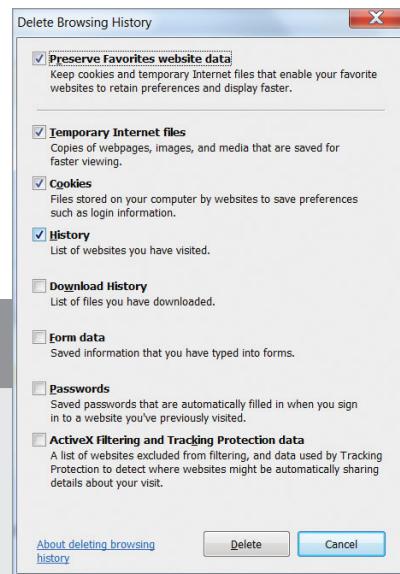
**Question:** How can I clear my browsing history in Internet Explorer 9?

**Answer:** As you surf the Internet, your browser keeps a record of the sites you visit. This history is a handy tool, especially when you want to track down a Web site you visited a few days ago, but it can be a nuisance if a colleague or guest uses your computer. Clearing the browsing history is easy. For Internet Explorer 9, open the browser and click the Tools icon (the little gear icon in the upper-right corner); or press ALT-X, highlight Safety, and select Delete Browsing History. Select the various content items that should be deleted, or uncheck the content to be preserved (such as Temporary Internet Files) and then click the Delete button. ■

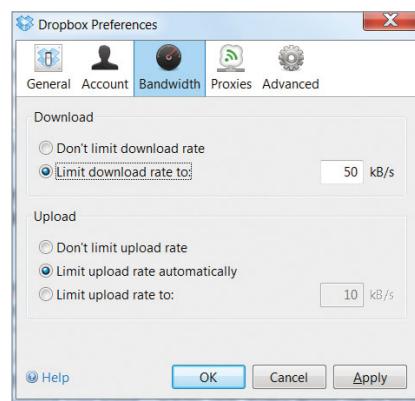
### ■ Online Storage

**Question:** I would like Dropbox to transfer data at a slower speed so that it consumes less bandwidth.

**Answer:** Although Dropbox doesn't generally use up much bandwidth, you can easily set a manual limit to make sure you always have enough bandwidth for your activities. Right-click the Dropbox icon in your System Tray and select Preferences. Select the Bandwidth option, click the Limit Download Rate To radio button and enter a data rate value, such as 50KBps. Click Apply and OK to save your changes. Feel free to experiment with data rate settings to



Preserve a bit of browsing privacy by periodically clearing the browsing history in Internet Explorer 9.



Limit the upload and download bandwidth of online storage tools such as Dropbox.

strike a balance that will allow you to send your files to people at the speed you need. ■



by Blaine Flamig

## Find It Online

# Let's All Go To The Movies

### IMDb

[www.imdb.com](http://www.imdb.com)

Not only is IMDb (The Internet Movie Database) one of the most popular Web sites in terms of movies, but it's also one of the most popular, period. Although the site's home page is a bit cluttered, it's a gateway to tons of interesting and potentially time-consuming content, including trailers, show times, box office numbers, news, galleries, DVD releases, buying and streaming options, quotes, links to external reviews, and an active user community (including user ratings).

### Internet Archive Movie Archive

[www.archive.org/details/movies](http://www.archive.org/details/movies)

Dozens of free, downloadable movies and videos. That's what awaits at the Internet Archive Movie Archive, a staple of any serious film fan's collection of movie Web sites. You won't find current Hollywood blockbusters here. Instead, you'll find a "rich and fascinating core collection of archival films," including such classics as "A Star Is Born";

"Farewell To Arms"; "His Girl Friday"; and Ed Wood's wonderfully awful "Plan 9 from Outer Space," which, according to the site, is considered one of the worst films ever. Organized into sections including Most Downloaded Items, Most Downloaded Items Last Week, and Staff Picks, the site's real treasures are arguably the sub-collections that include Cultural & Academic Films, Ephemeral Films, Animation & Cartoons, Movies, and more.

### FirstShowing

[www.firstshowing.net](http://www.firstshowing.net)

The site's tagline is "Connecting Hollywood With Its Audience." To that end, FirstShowing more than succeeds by giving movie junkies the lowdown on flicks yet to see wide release from major and independent studios. In addition to just-released trailers and film posters, the site offers up scads of news, rumors, and other tidbits from a staff working within their own confines and on the scene at major film festivals and conventions. To jump right in, just look to the top of the

home page for the Latest Trailers, Latest Interviews, and Upcoming Releases sections or merely start scrolling the well-illustrated entries that populate the site.

### Fandor

[www.fandor.com](http://www.fandor.com)

Think of Fandor as an online, independent film subscription service alternative to Netflix. With a \$10 monthly subscription, Fandor provides users unlimited access to "discover, watch, and share features, shorts, documentaries, and international films." Overall, the site offers roughly 2,500 eclectic titles viewable on PCs, Macs, and TVs for owners of a Boxee device in such genres and sub-genres as Animation, Film Noir, Fairy Tales, Gangsters, War, and Westerns. The Fandor Channel, meanwhile, provides users with access to various film series curated by the site's staff, while a clip-sharing feature allows for sharing movie clips with friends via Facebook. In addition to a free monthly trial, the site offers one free film for viewing to get your feet wet.

### Folkstreams.net

[www.folkstreams.net](http://www.folkstreams.net)

This nonprofit effort from filmmakers Tom and Mimi Davenport and several institutional partners has two admirable goals. The first is to create a "national

## Share THE WARES

*Some of the best apples in the online orchard are the free (or free to try) programs available to download. Each month, we feature highlights from our pickings. This month, we delve into software that helps organize your movie collection.*

preserve of hard-to-find documentary films about American folk or roots cultures." The second goal is to give such films "renewed life by streaming them on the Internet." Incredibly educational and diverse, the site's best trait may be the various material that accompanies each movie, including transcripts, teaching guides, and background information (related books, video, and Web sites).

### Fandango

[www.fandango.com](http://www.fandango.com)

Created in 2000 by major movie exhibitors with filmgoers in mind, Fandango may be the ultimate destination for all things regarding major studio releases. Beyond selling advanced tickets to flicks showing at 15,000-plus theaters, including tickets printable at home and for purchase via mobile apps (iPad, iPhone, Android, BlackBerry, and Windows Phone 7 devices supported), Fandango is chock-full of movie goodness. In addition to show times, trailers, news, galleries, DVD release news, and movie guides (IMAX, 3D, indie, etc.), there's a Facebook Activity On Fandango feature that details current activity regarding films on the social networking site. Elsewhere, users can text Fandango a ZIP code to receive local show times, while those in select cities can have tickets sent to a mobile device.

# THAT'S News To You

*Finding the appropriate online group to match your interests can be a monumental task. So each month, we scour the Internet to bring you the friendliest forums and most interesting bloggers the Web has to offer. This month, we focus on those blogging about movies.*

### GordonandtheWhale.com

[www.gordonandthewhale.com](http://www.gordonandthewhale.com)

This Web site's name is a combination of Chase Whale and Rusty Gordon, the two men who co-founded this blog in 2007 based on their mutual love to "discuss and argue all things film." Since the blog's inception, it has seen its staff grow to nearly 20 people who present news, clips, interviews (video, audio, and text), editorials, coverage from film festivals, and plenty of comprehensive reviews (divided into Theatrical, Blu-ray/DVD, Television, and Soundtracks categories).

"There is, of course, a huge element of hard work to what we do, but everyone who is involved with the site does so out

of a pure love for cinema," says Kate Erbland, the blog's managing editor. "I think that the hard work—the writing, the editing, the sleepless days and nights at festivals, the press to get breaking news up, seeing film after film—all of that stuff basically guarantees that there is real passion in what we do."



### All My Movies 6.4

Anyone with a healthy-sized movie and TV collection should strongly consider this stellar program from Bolide Software ([www.bolidesoft.com/allmymovies.html](http://www.bolidesoft.com/allmymovies.html)). Essentially, you get a database-centric program that presents all the video files, Blu-ray Discs/DVDs, CDs, and video tapes in your movie and TV catalog in a stately, intuitive manner. Integration with online databases such as IMDb helps supply details for your flicks, while DVD/Blu-ray owners can simply enter individual bar codes and have details filled in. Titles display in a left-side panel via a virtual bookshelf,



sortable title list, or as cover thumbnails. Click a title and its cover art displays in the main viewing area, along with the media type, duration, date added, personal remarks, and episode descriptions for TV titles. In addition to playing content from the program, you can save collections to mobile devices, access

numerous import/export options, sort and group titles in several ways, and more. The 30-day trial limits you to only using the sample database but does provide a good idea of whether the \$44.95 required for a full license is worth it to you.



## Gadgets Galore – We All Have Them and Love Them!

***But they all suffer from the same common problem: Limited storage space!***

No matter whether it's a smart phone, computer tablet, MP3 player, or a digital camera, nearly every electronic gadget needs memory of some type to store data. Most of these devices rely on Flash memory to provide fast and safe storage. But the amount of space available is not limitless, thus good housekeeping is required.

Easy Duplicate Finder™ provides the solution to this problem by eliminating duplicate files on the device itself\* or on the computer to which they are transferred. You'll free up storage space and optimize the way you maintain your files.

New digital cameras and camcorders present a paradox of sorts; as they continuously improve (in picture quality, video resolution, etc.), they end up requiring much more storage space to contain their output. That's why Easy Duplicate Finder is an essential tool to keep on your computer; one that you will find to be indispensable once you've used it.

\*Requires that the device shows up as a drive letter in the compatible operating system.



**Easy Duplicate Finder works with:**

 **easyDuplicateFinder™**  
[www.easyduplicatefinder.com/smartcomputing](http://www.easyduplicatefinder.com/smartcomputing)



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# Ovation

Each month, the *Smart Computing* staff gets to work with all kinds of new computing and consumer electronics products. Here are some of the most exciting products to cross our desks.

Compiled by Joshua Gulick

## SlimCleaner

Free | SlimWare Utilities | [www.slimcleaner.com](http://www.slimcleaner.com)

SlimCleaner is a free PC optimization tool that uses feedback from its vast user community to improve its performance on your system. This crowd-sourcing approach means that your software will be as new a year from now as it is the day you install it.

I like SlimCleaner's easy-to-use tools, which can be as automatic (or as configurable) as you prefer. The main component is the optimizer, which gets rid of unnecessary files and makes other adjustments to keep your system humming. Other tools include an uninstaller that gets rid of stubborn programs and a shredder that permanently destroys files.

SlimCleaner also has a Hijack Log tool that provides a snapshot of important information about your PC. Share that



log with fellow users on SlimCleaner's forums and you'll get plenty of advice about your latest computer glitch.

## Easy Duplicate Finder

\$29.95 | WebMinds | [www.easyduplicatefinder.com](http://www.easyduplicatefinder.com)

Is your computer's hard drive approaching its storage capacity? Chances are, duplicate files are wasting your hard drive's precious space right now. Copies of pictures, documents, and other files often go unnoticed by users who are looking for space-hogging files to delete. Easy Duplicate Finder makes the search for duplicates fast and painless. It scans your system (and any attached devices that have drive letters, such as music players, memory cards, and external hard drives) and then lets you choose the duplicates you'd like to remove. It can also remove duplicates (or simply move them to a particular folder) automatically if you want to take a hands-off approach.

I like that the software tells you how much space your originals are using and how much space your



duplicates are using. Because you may have multiple duplicates of the same original file, these two numbers are often different.

## What To Do When

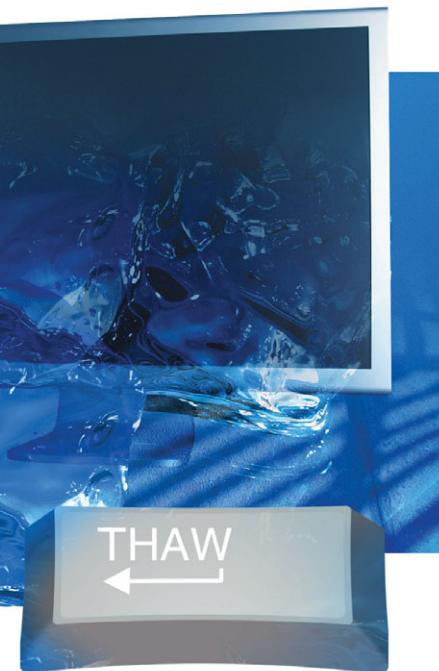
# Your System Freezes

**B**ig programs do it. Small programs do it. Good programs do it. Bad programs do it. Old systems do it. New systems do it. All programs do it, and all systems do it. Freezing is a fact of computing life, whether it's an individual application that stops responding or the entire system that locks up. Anytime this happens your work is at risk, but freezing doesn't always have to end in catastrophe. We'll help you understand how to work through issues when they arise and recover from them after the fact.

### General Tips

Regardless of the situation, there are a few general guidelines that can help keep you sane and your system stable. First, above all, be patient. What at first looks like a freeze can often just be slow processing. When in the middle of

resource-intensive activities, such as editing video, burning a DVD, or copying large files, many applications and machines run especially slowly and may even appear to hang. Drastic steps are sometimes necessary, but they usually come with a cost. Don't start forcing anything to close or shut anything down



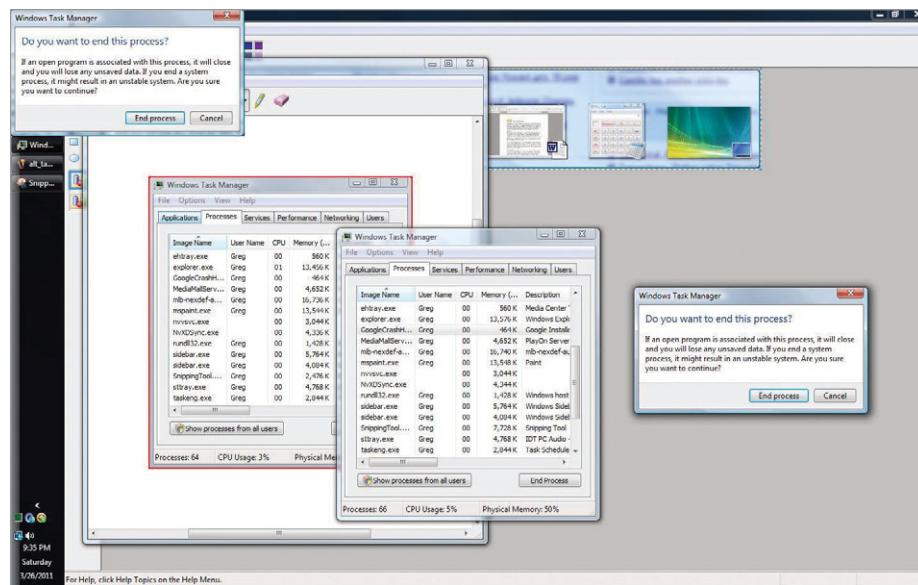
until you're certain it's not just taking a long time to process and you've exhausted all other possibilities.

As always, protect yourself against the inevitable (but hopefully rare) freezes and crashes that can't be prevented. Follow the basic rules of computing. Save early and often. Schedule and confirm regular

backups of important data. Don't let hardware or software problems linger—troubleshoot and repair/replace as soon as feasible. Use antivirus and antispyware tools to protect your system from infection or invasion; many freezes can be attributed to the impact of malware.

### Program Freezes

Sophisticated commercial applications normally provide some sort of moving progress indicators to let you know they're still working and not frozen, but not all applications



Pressing ALT-TAB may let you switch among open applications in attempting to avoid one that's not responding.

## Tech Support

have these, and they don't always work correctly. When you think your program is frozen, use your mouse to try switching applications. Sometimes working on something else gives the bogged-down application time to recover or catch up.

If switching to other applications doesn't work, or if the mouse isn't responding, try the ALT-TAB keyboard combination. This shortcut displays each of the currently open windows and lets you toggle among them. Press TAB repeatedly while holding ALT to rotate through them. Simply release both keys when you reach the application you want. Switching out to another open program, either for just a moment or for a longer period, can help determine whether the application in question is responding.

If nothing else is open, or if ALT-TAB isn't responding, try the WINDOWS-M combination instead. This shortcut minimizes all open applications, returning your screen to the Windows Desktop. Sometimes, it will also reveal a dialog box or warning message hidden underneath other open windows, which may prevent programs from responding while they await input.

The next step is to try relaunching the offending application or opening another instance of it. Sometimes this will nudge the system into reactivating the first open window in that program or, at the very least, let you complete your activity within a different session. This won't work every time, and it may not help you access in-progress data, but it won't hurt if the application is frozen already.

If nothing you do induces the application to respond, use the "X" button at the top right to try and close it. The application may not respond to the close request immediately, but this is another opportunity to practice patience. The program may take a minute or two to close, or it may take that long to generate the message that it isn't responding. If the "Not Responding" message appears, and if you've exhausted all other options, force the application to close by clicking End Task (or similar).

Sometimes, though, an application won't even respond to the Close button



The end task dialog box, either generated from an application's Close ("X") button or from the Task Manager, may force a frozen program to close.

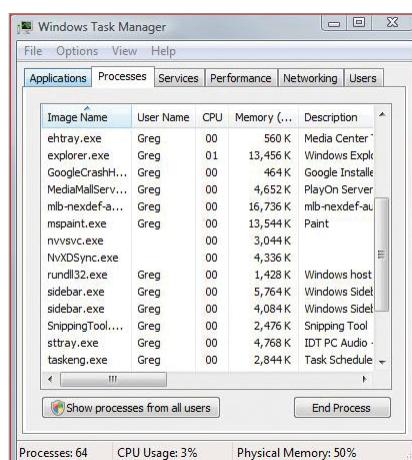
or generate an End Task dialog box. If ending a program this way doesn't work, you'll have to go to the Task Manager. Access the Task Manager by right-clicking the Taskbar and selecting Task Manager from the context menu or by pressing CTRL-ALT-DELETE and clicking Start Task Manager from the on-screen menu. Start with the Applications tab. Locate the program in question and click End Task. If that doesn't do anything after a few minutes, navigate to the Processes tab. Try to locate your problem application by name. Usually, you can figure out the correct process based on the Image Name field (click the Image Name label to sort alphabetically), though some applications are a little more cryptic and require cross-checking the

Description field, as well. Sorting by CPU or Memory usage may also provide a clue as to what's hogging all the resources. When you find a culprit, select it and click End Process at the bottom right. Confirm any warning messages with another End Process selection. This should bring a quick end to any application that's stopped responding, but it doesn't mean your system is back to normal. After you've had to do an application-killing End Task or End Process, it's a good idea to reboot and let the system come back up in its natural state.

### System Freezes

Full system-wide freezes can be a little more difficult to figure out. For one thing, it's hard to identify a single application or process at fault if you're multitasking when things go awry. It's also harder (by definition) to navigate and investigate when nothing is responding, including Windows. However, just as with application freezes, don't give up too early. Look for signs of life that might indicate the system is processing and not frozen. Good indicators include flashing activity lights, the whir of a churning hard drive, or indicator icons and bars that move only infrequently. If it looks like things might actually be moving, even if only at a snail's pace, wait a little longer.

When signs of life cease, or when you run out of patience, try a few simple navigational tricks. Use the ALT-TAB shortcut as previously described to see if anything happens. Try other keyboard shortcuts such as WINDOWS-M (minimize all) or WINDOWS-D (show the Desktop). Disconnect and reconnect your mouse and keyboard. You can also try removing peripherals not in use, such as portable drives, printers, or other devices. Try removing any recently added hardware. USB drives, especially older ones, are notorious for creating resource conflicts that can bring a system to its knees.



The Windows Task Manager provides detailed access to all open applications and processes, providing access to a forced End Process or Log Off option.

## After The Thaw: Recover From A Freeze

**W**hether you manage to get things moving again or have to bring the application or system down, there are a few steps to take after a freeze.

**Reboot.** Even after just closing an application, your memory or other processes may have become corrupted. Be safe and restart the system.

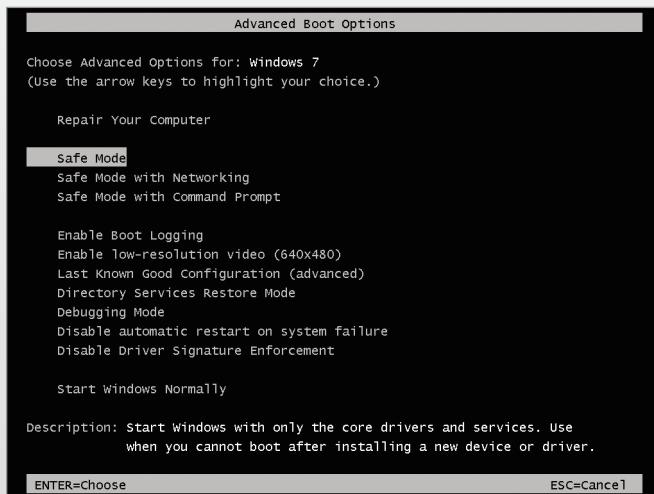
**Safe Mode.** If you bring down the system without using the Windows Shutdown option, boot up in Safe Mode. Windows will often prompt you after a system crash, or you can press F8 during the boot process for a menu with the option to boot into Safe Mode. After loading into Safe Mode, reboot again with a clean restart before proceeding with normal activities.

**Recover data.** If you had to close out in

the midst of working on something, your in-progress data may be lost. But you may be able to recover at least part of your files. Microsoft Office will often AutoRecover documents after a crash, and temporary or archived files may provide some assistance.

**Watch out.** Keep a close eye on the system's performance and your usage for a while, so that if a freeze recurs, you can detect a pattern and, hopefully, identify the cause.

**Save early, save often.** Freezes can happen at any time, without warning. Make a habit of saving your work regularly. Don't forget to schedule and verify regular system backups, as well.

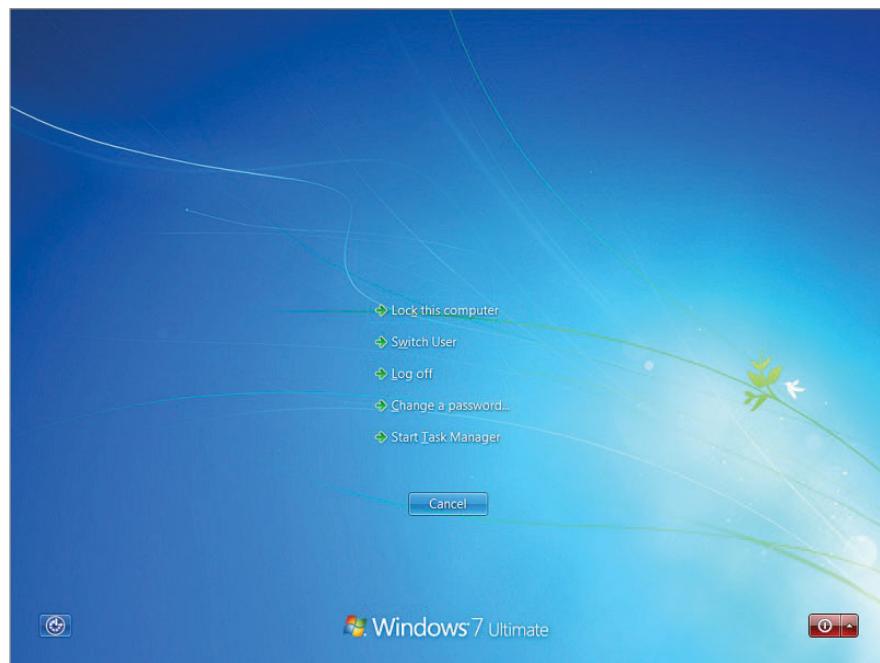


After a freeze, boot back up into Safe Mode before restarting normally.

If the system is still not responding, you're left with little choice but to shut it down. Take the gentle route first. Press

CTRL-ALT-DELETE and see if you can get to a Log Off or Task Manager window. Or try to get to the Start menu

with its shutdown options, either via the mouse or by pressing the WINDOWS key. Next, press ALT-F4, which will try and close either the currently active application or may shut down the system. If your machine has Shutdown, Standby, or Restart keyboard buttons (as many notebooks do), try using them. Additionally, many desktop cases have a Restart button built into the front. Finally, if nothing else works, press and hold the Power button to bring the machine down. Physically pulling the plug or removing the battery is your absolute last resort and can create hardware problems, so you should avoid such drastic measures if at all possible. ■



BY GREGORY ANDERSON

The CTRL-ALT-DELETE keyboard shortcut may not work when the system freezes, but it's worth a try before shutting everything down.

# How To Install A Graphics Card

All modern PCs have silicon dedicated to video processing, whether it's integrated with the CPU at the die level, a standalone chip on the motherboard, or on a discrete graphics card installed in a PCI-E (Peripheral Component Interconnect Express) slot on the motherboard. These chips, called GPUs (graphics processing units), are responsible for everything you see on your display, from the operating system and application interfaces, to 3D games,

the Web, videos, pictures, and more. They are the visual engines under the hood of the PC. But like engines in cars, there are limits to what low-powered graphics adapters can handle, and a discrete graphics card is your best route to a more visually engaging experience.

## Who Needs A Graphics Card?

If you're perfectly pleased with the computing experience you get from a netbook, chances are you do not need a graphics

card. But you might be surprised at all the things a discrete graphics card can do for you.

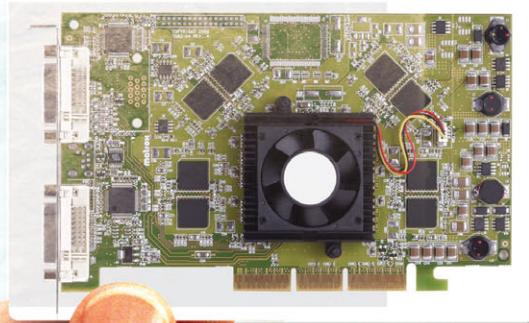
**Gamers.** Gamers are the biggest proponents of discrete graphics cards, and for good reason: No single piece of hardware has a bigger impact on game performance. There is a stark visual difference

between a modern 3D game running on a midrange discrete graphics card that costs just \$75 and an integrated graphics adapter. In some instances, integrated graphics adapters are so underpowered that some graphically intensive games

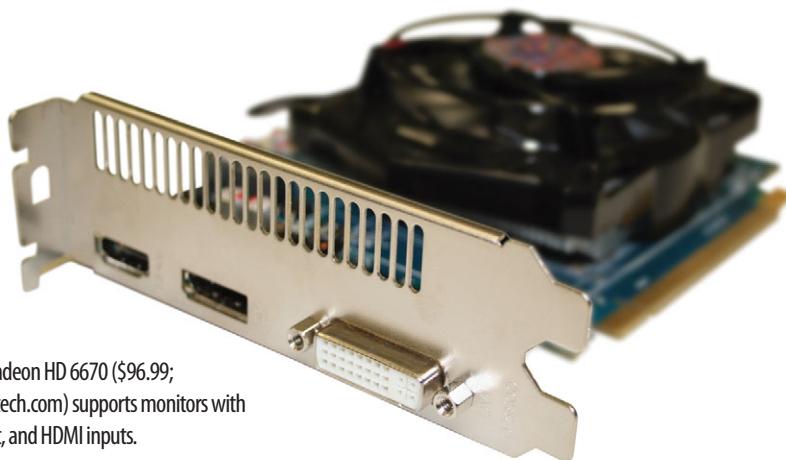
won't even run. More often, though, the resolution is dropped below your monitor's native setting, any and all graphical effects are turned off, and the frame rate slows to a crawl, making the game difficult—if not impossible—to play. Even an inexpensive graphics card lets you increase the resolution of most games and increase frame rates (the number of frames of video rendered per second). And you can turn on some of the eye candy that makes games so immersive and lifelike, such as shadows, anti-aliasing (which reduces the jagged edges of in-game objects and scenery), and higher quality textures.

**Professionals.** Graphics cards aren't just about fun and games. Visual artists and professionals who use CAD (computer-aided design) applications also recognize the value of a discrete graphics card. But beyond that, the GPGPU (general-purpose computing on graphics processing units) field has broadened the scope of what a GPU can do. Programming languages such as OpenCL (Open Computing Language) and CUDA (Compute Unified Device Architecture) apply the parallel processing power of GPUs to computing tasks that were once exclusively the domain of CPUs.

**Everybody else.** Unlike CPUs, which play a role in most things you do with your PC, graphics adapters are better-suited to accelerating image-intensive applications and tasks, such as games, video editing, image manipulating, and



The Sapphire Radeon HD 6670 (\$96.99; [www.sapphiretech.com](http://www.sapphiretech.com)) supports monitors with DVI, DisplayPort, and HDMI inputs.



playing high-definition video. If you do any of these activities, even just occasionally, you could see a performance boost with a discrete graphics card. Even operating systems are beginning to demand a lot from these chips. Some consumer-based applications use OpenCL and CUDA to harness the power of the GPU, including a selection of video and image editing programs, content creation suites, DVD and Blu-ray playback software, and more. In short, most avid PC users will enjoy the benefits of a discrete graphics card.

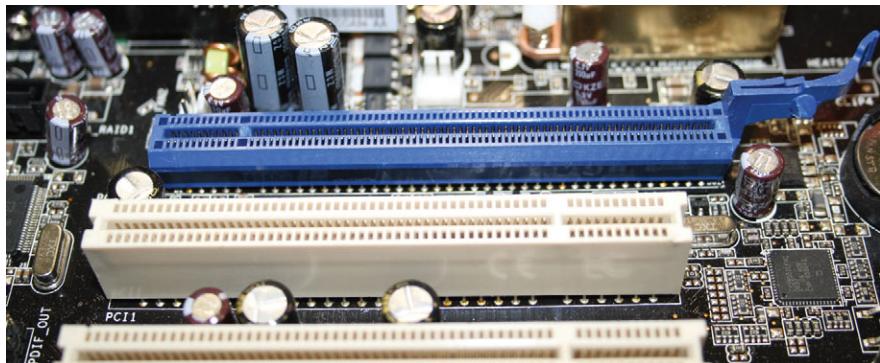
### Find The Right Graphics Card

Most PCs manufactured in the last five years use PCI-E slots for discrete graphics cards, but older PCs may only feature AGP (Accelerated Graphics Port) or PCI slots. Once you determine which interface your computer's motherboard uses, you can shop for a graphics card that utilizes that interface.

Also note the display outputs. Most current graphics cards have one or more long rectangular DVI (Digital Visual Interface) ports, typically white, that transmit uncompressed digital video signals to your monitor. The blue port is called VGA (Video Graphics Array), sometimes D-sub, and it transmits analog video signals to your monitor. Many modern graphics cards have DisplayPort and HDMI (High-Definition Multimedia Interface) ports. Make sure the graphics card you select has an interface that your current monitor supports.

Mid- and high-end graphics cards typically require supplementary power from the power supply, usually in the form of one or more 6-pin or 8-pin PCI-E power connectors. Make sure your power supply has the appropriate number of unused power connectors. If you have to resort to power adapters, your graphics card might not be powerful enough to handle the added strain.

Finally, make sure the graphics card you buy will fit in your case; low-profile cases require low-profile cards. Many graphics cards are also double-slot, meaning they take up two expansion slots on the motherboard. Most high-end



The blue PCI Express slot shown here has a locking tab on the far right that keeps the graphics card in place.

graphics cards are longer and typically won't fit in midtower and smaller cases.

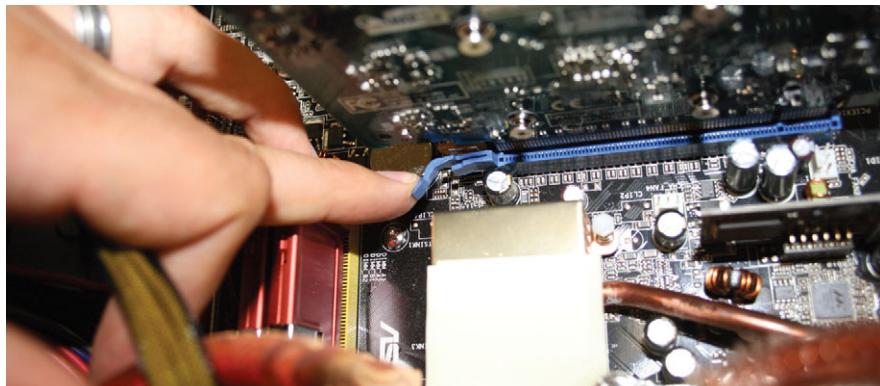
### How To Install The Graphics Card

Once you've selected your new graphics card, installing it yourself is relatively painless. Simply follow these instructions in order, and you'll be pleasing your peepers in no time.

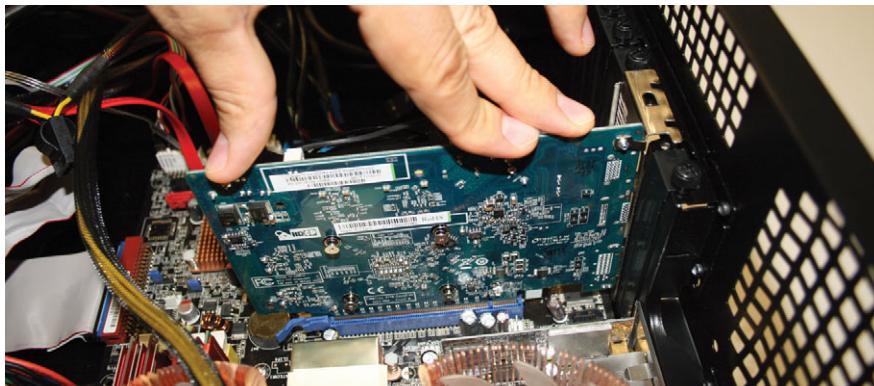
**Uninstall drivers.** The first step is to uninstall the existing graphics driver. To do this in Windows 7, click Start, Control Panel (in Category view), and then click Uninstall A Program from the Programs category. If you see ATI Catalyst Install Manager or Nvidia Drivers, click the item, click Change or Uninstall/ Change from the top of the window, and then follow the instructions. When complete, the system will restart. Next, shut the system down completely. Turn off the power supply where the power cable attaches to the PC and remove the

case side panel. Make sure to touch the metal portion of the case frame to dissipate any static electricity and unplug the power cord from the PSU. Also remove the monitor cable, audio cables, USB cables, and any other peripheral attached to the PC.

**Out with the old.** With your PC shut down and disconnected from the mains power, you can now go about the task of removing your old graphics card (if there is one). Typically, the graphics card will occupy the topmost area of the motherboard's expansion slots. If your monitor plugged directly into the motherboard, then chances are you were running integrated graphics and have nothing to remove. If the monitor cable was connected to an expansion card, then this is most likely your existing graphics card; remove the screw(s) holding the bracket to the rear case panel, disconnect the one or two auxiliary power connector(s) from the old



Don't remove the old graphics card without undoing the locking mechanism on the PCI-E or AGP slot.



Line up the card's connectors with the motherboard slot and press down to seat it properly.

graphics card if there are any, unlatch the PCI-E (or AGP, as the case may be) slot's locking mechanism, and then gently lift the card straight out of the slot.

**In with the new.** If necessary, use a can of compressed air to ensure the graphics slot is clear of dust and then carefully slide your new graphics card

into the topmost available graphics slot. Secure it with one or two screws and connect any auxiliary power connectors as necessary. Replace and secure the PC case panel, connect the power cord to your computer and to the mains power, reconnect your peripherals, and ensure your monitor cable is connected to the appropriate port on the back panel of the new graphics card. Next, turn the PC back on.

**Install the driver.** While any graphics card you buy at retail is going to ship with a driver disc, we recommend downloading the latest graphics drivers from the manufacturer's Web site. You can find these on the AMD or Nvidia Web site.

If you bought an AMD graphics card, visit [www.amd.com](http://www.amd.com), click Support & Drivers from the top-right corner of the page, choose Desktop Graphics from the Component Category drop-down box, and select the appropriate options for the Product Line, Product Model, and Operating System. Then click View Results. Click Download and then follow the on-screen instructions to complete the operation. Your monitor may go dark momentarily during the installation, and you may also need to restart your PC when the installation is complete.

If you bought an Nvidia graphics card, visit [www.nvidia.com](http://www.nvidia.com), select your region (if necessary), and click Download Drivers from the top-left corner of the screen. Fill out the Product Type (GeForce), Product Series, Product, Operating System, and



Once installed, just connect your monitor to the appropriate port and then feast your eyes.

### Buying Advice

**R**ead on to determine how much graphics card you need for your desired activities, and how much you can plan to spend.

**Basic graphics.** For most of us, a \$75 graphics card with at least 512MB of onboard memory can handle most basic tasks, including Windows Aero, Web browsing, online video, SD and HD content, and some light gaming at resolutions 1,440 X 900 or lower.

**Above-average viewer.** Those who do all of the above but spend more time playing games, viewing and editing photos, or 3D modeling at resolutions up to 1,600 x 1,200 will probably want to spend between \$100 and \$200 on a graphics card. Onboard memory on these graphics cards starts at 1GB.

**Eye candy enthusiast.** If you regularly use your PC for graphically intensive applications, such as games, video editing suites, or 3D modeling software, then expect to spend in excess of \$200 on your graphics hardware. Gaming at resolutions 1,920 x 1,200 will require 1.5GB of onboard memory or more.

Language fields as needed and then click Search. Click Download and then follow the on-screen instructions. Here, too, your monitor may go dark momentarily, and you may also need to restart your PC when the installation has been completed.

### All Systems Go

To make sure the new graphics card is pulling its weight, you can right-click anywhere on the Desktop, and if you see Nvidia Control Panel or Catalyst Control Center as options, then your new graphics card and driver are functioning properly. Select the NCP or CCC to tweak your graphics card, adjust resolution, change multi-monitor settings, and more. ■

BY ANDREW LEIBMAN

# Solve Problems With Digital Cameras



If you've ever used photo-editing software, you probably already know how to deal with minor image issues such as red-eye. But what if the problem lies with your digital camera itself? Read on.

## Minor Problems

### Problem: Blurry shots.

**Solution:** If the autofocus feature is acting sluggish, the camera might be running low on battery power, especially if you've been taking a lot of pics in a short amount of time. Try a fresh battery or a recharge session. Alternatively, add more light to the scene and give the autofocus more time to work.

If your autofocus isn't doing its job at all, make sure it's turned on and that you're using it properly (such as holding the shutter button down halfway for a few seconds before snapping each photo). If your camera supports detachable

lenses (which must support autofocus, too), clean any debris from the electric contacts between the camera body and the lens.

A dirty lens is another common cause of fuzzy images. Use a cleaning product that's safe for your lens's coatings, such as a lenspen or an optical wipe. Never use your fingernail, shirttail, or a tissue, or you might inadvertently scrape off the coatings that reduce glare and improve light transmission through the lens.

### Problem: Washed-out subjects and/or harsh shadows behind them.

**Solution:** Sometimes it's hard to get just the right amount of flash under adverse lighting conditions or when the subject is close to your camera. Likewise, shadows are hard to avoid if your subject is standing a few inches in front of a wall, so move your subject away from the wall or shoot from a different angle. Read your camera's manual to learn about its automatic shooting modes, such as Low Light or Beach, because using them appropriately can help tremendously.

You can reduce the intensity of the flash (or turn it off entirely) in many cameras'

It pays to familiarize yourself with your camera's shooting modes, or scenes, for the best shots in different situations. The Nikon COOLPIX P7000 (\$499.95) even lets you assign your favorite modes to user slots labeled U1, U2, and U3.

settings. Another dimming trick is to slip a diffuser accessory over the flash lens, or even to tape a small piece of white paper over it. And if you're using a detachable flash, perhaps it lets you change the angle of the bulb to bounce its light off the ceiling for softer, more indirect fill lighting. Typically, you'll hold down a large button on the side of the flash as you pivot the bulb section upward.

**Problem:** A shadow in the flash coverage.

**Solution:** Make sure that your fingers, thumbs, camera neckstrap, hair, or any other objects aren't blocking the flash. Actually, while you're at it, ensure that none of these potential obstacles is getting in the way of any sensors on the front of the camera body, either.

**Problem:** The battery doesn't last as long as it used to.

**Solution:** Rechargeable batteries have a finite life span. They depend on chemical reactions, which weaken over time as the battery's components break down. Check your camera's manual for advice on getting the most useful life out of its particular formulation of battery, such as recharging it before or after it gets fully depleted.

In the short term, if you need to make a battery last a few shots longer, turn off the flash and autofocus. Next, eject the battery and rub its metal terminals with a clean cloth.

**Problem:** A white, crusty material appears around the battery.

**Solution:** This indicates a battery leak. You'll need to buy a new battery and recycle the old one.

To clean off the crust in the camera's battery compartment, use a bronze or nylon bristle brush from a hardware or automotive store. An old toothbrush may also work.

Next, dampen the brush with water and scrub the area to neutralize any residual alkali or acid. Repeat this a few times. After the camera dries thoroughly, touch up the battery compartment's metal contact pads or springs with a

small piece of medium or fine sandpaper. Close your eyes, blow out the loose debris, and insert the new battery.

**Problem:** Your camera doesn't focus on close-up objects.



**Solution:** If you're trying to take a picture of something close to the lens, switch to macro mode (the flower icon) to get the subject in focus. If your camera supports interchangeable lenses, put on a macro lens. More light may help, too.

You can also try disabling your camera's autofocus feature and then adjusting the focus by hand. Any minor movement of the camera may introduce blurriness, however, so it's best to use a tripod or mount for some macro shots.

### Major Bummers

**Problem:** A stuck memory card.

**Solution:** It's pretty common for a user to insert a camera's memory card upside down, backward, or both. Plenty of us have similarly pushed a mini-sized

card into a slot without using the proper adapter. And in a handful of cases, the card gets stuck.

Normally, you can eject a card by pushing a nearby button or the edge of the card itself. If the card is really stuck, however, be careful not to apply too much force, or you could damage the camera.

If you can't gently wiggle the card loose with tweezers or a pair of thin, flat objects (nail files, small screwdrivers, loyalty card key-ring fobs), check with a local camera shop. There's a chance that its staff has dealt with this sort of problem more than once. If all else fails, you may need to ship the cam to the manufacturer or a repair service.

**Problem:** Bent pins in a CompactFlash slot.

**Solution:** The input/output end of a CompactFlash card has two rows of holes that correspond with metal pins in the camera's card slot. Unfortunately, if the CF card isn't entirely straight in the slot before the user presses it into place, some of the pins could miss their holes and instead be bent to the side.

Your best bet here is a repair shop. The goal is to straighten the bent pins, but they're located an inch deep in a narrow slot. And if you accidentally break one of those pins off, you'll be faced with a much more expensive repair.

That said, it's possible—albeit tricky—to fix bent pins yourself. Eject the camera's battery and turn the cam on to drain any residual energy. Next, shine a desk lamp or other good source of light down into the CF slot so you can see what you're doing. Use a small, slender, flathead screwdriver to gently coax the pins back into line.

If it works, try not to eject that CF card ever again if you can help it. Use the camera's USB or other cable to transfer photos from now on.

**Problem:** Scratched lens or lens coatings.

**Solution:** Don't expect this problem to be covered under warranty. Lens coatings require precision processes in order to be applied correctly and evenly. Therefore, a camera manufacturer may



If your trouble stems from dropping your camera or getting it wet, consider a ruggedized model such as the PENTAX Optio WG-1 ([www.pentaximaging.com](http://www.pentaximaging.com)).

or may not offer a recoating service as part of its product support.

Because a scratched lens must first be removed, repolished, possibly reground, and cleaned before recoating and reassembly can take place, it's an expensive process. Replacement of the lens assembly or the entire camera, whichever is the most cost-effective, is the more common fix.

Note that some third-party lens repair shops offer recoating and other rehabilitative services. However, if your lens is a small one, it may not have enough surface area for a typical polishing or grinding machine. In that case, replacement may be your only option. ■

BY MARTY SEMS



Your camera's settings menu may let you adjust the flash intensity, update the cam's firmware, and more. Nikon's D3100 D-SLR (\$699.95; [www.nikonusa.com](http://www.nikonusa.com)) even guides you to the right settings for the type of shot you want.

### Update Your Camera's Firmware

Like so many other devices these days, digital cameras can benefit from firmware updates. Depending on your camera's age and manufacturer, there may be a new firmware version waiting to correct your cam's bugs and/or improve its feature set.

Check the Support section of the manufacturer's Web site. This may not only have new firmware for your specific model of camera (check the Downloads or Software links, if any) but also a digital copy of your users manual, should you be unable to find the copy that came with your camera. The manual will show you how to navigate your camera's settings to find the version number of its current firmware, such as 1.04.

If there's a new firmware edition or update utility, download it. (These generic instructions may vary from your camera manufacturer's, in which case you should follow the latter to the, uh, letter.) Connect your camera to your computer with its USB cable and then move any photos off it.

If you downloaded a firmware file, double-click it. This may update the camera's firmware directly. If it simply copies a file or two to the cam's internal storage or memory card, you may have to use the camera's menu buttons to enter its settings and perform the update process there.

On the other hand, if you downloaded an update utility, install it and launch it. Depending on its abilities, it may be able to find a new firmware version online, download it, and install it on your camera. Follow its instructions. Finally, disconnect and restart your camera. Check the menus for any new settings or user interface changes.



# Scareware

## Scaring You Into Saying “Yes”

Scareware is a scam that often occurs as a browser pop-up window that resembles a legitimate security utility. The program often features a realistic title. Typical scareware appears to scan your computer and look for malicious programs or problems. When it finishes the scan, it tells you that there are numerous threats on your computer, and you should click the pop-up to install a program that will rid the PC of its issues. Clicking the pop-up allows the scareware to install viruses, spyware, and/or alter the security settings of your PC. Alternatively, the scareware may instruct you to buy the full version, touting the (likely fake) list of malicious software on your system as proof that the scareware is worth your money. Here, we'll show you how to spot and remove scareware from your computer.

### Detecting Scareware

Jamz Yaneza, research manager at Trend Micro ([us.trendmicro.com](http://us.trendmicro.com)), says, “Scareware can take many forms. The first cybercriminals used tactics that warned users of infections with things like fake antivirus that would

attempt to steal credit card numbers by saying you needed to pay for the software to fix the problems. Cyber-criminals have become more devious and cunning. Now, you'll see fake diagnostic tools or search engine optimization tactics that mimic the manner that real-time antivirus products protect your system. Others will imitate codecs, saying that you'll need to download something if you want to watch a Web video.”

You should be skeptical of Web browser pop-ups, because pop-ups are one of the ways cybercriminals



Scareware pop-ups often closely match the types of alerts and security software pop-ups you see when using your PC.

can break into your PC. “Whether you're at home or at work, you should know anti-malware software is running on your computer or network. For example, if you know that your PC is running Trend Micro, you can be assured that when FakeAV—or whatever program—pops up, that it's not the program responsible for monitoring the security of your computer,” says Yaneza.

If the pop-up window is a program that doesn't look familiar to you, it's best to close it immediately. (We'll cover how to properly close scareware pop-ups later.) Just know that whatever the scareware message says (such as that it has detected a hard drive failure), your computer will not be crippled if you close the pop-up.

Scareware may also take the form of a spoof email that indicates you'll need to take some kind of immediate action that requires clicking a link in the email. Due to an abundance of these spoof emails, UPS recently outlined the signs you should look for when reading unsolicited emails. We found this advice would be helpful for anyone trying to identify any scareware email. The

## Tech Support



### Dear Account User

This Email is from UPS Customer Care and we are sending it to every Ups Email User Accounts Owner for safety, we are having congestions due to the anonymous registration of Ups I accounts so we are shutting down some Ups accounts and your account was among those to be deleted. We are sending this email to you so that you can verify and let us know if you still want to use this account. If you are still interested please confirm your account by filling the space below. Your User name, password, date of birth and your country information would be needed to verify your account.

**Due to the congestion in all Ups users and removal of all unused Ups Accounts, Ups would be shutting down all unused Accounts. You will have to confirm your E-mail by filling out your Login Information below after clicking the reply button, or your account will be suspended within 24 hours for security reasons.**

\* User ID .....  
\* Password .....  
\* Email Address .....  
\* Account Number .....  
\* Country Or Territory .....

After following the instructions in the sheet, your account will not be interrupted and will continue as normal. Thanks for your attention to this request. We apologize for any inconveniences.

**Warning!!!** Account owner that refuses to update his/her account after two weeks of receiving this warning will lose his or her account permanently.

Fraudulent emails can also utilize scareware tactics.

list of items UPS does not request—in an unsolicited manner—includes payments, personal information, financial information, account numbers, IDs, passwords, and copies of invoices. Common indicators of scareware, according to UPS, include poor grammar (such as errors, misspellings, and excessive use of exclamation points), unexpected requests, and a lack of alternative ways to provide the requested information, such as a phone number, mailing address, or a physical location.

Because the goal is to try to scare you into taking action, many types of scareware typically include some type of trick that pushes you to make an immediate response. For example, the pop-up may indicate that “your computer has several critical errors and needs to be fixed immediately” or “your account will be suspended within 24 hours.”

### Closing Scareware

When you see scareware, it's important that you don't click anywhere within the pop-up, whether or not there are options for Yes, No, or Cancel. In fact, you shouldn't even select the Close window button in the upper-right corner, because any area that you select may have been

manipulated by the cybercriminal to let it start installing viruses onto your PC. Instead, simultaneously press CTRL-W on your keyboard, which will close the pop-up. If that doesn't work, press CTRL-ALT-DELETE, select Start Task Manager, and click Applications. Then, right-click the task for your Web browser and select End Task. This method will kill all the Web browser tabs you had open.

If a scareware program has managed to install itself onto your PC, you'll want to immediately run your security software's scanner. The longer the scareware sits on your computer, the more damage it can do. For example, the scareware could begin to randomly load pop-up windows in your Web browser, or it can disable features in Windows' Control Panel. Worse, scareware may disable your

security software. If you find that it has been disabled, contact the security publisher's tech support and see if it can remotely connect to your PC and remove the scareware.

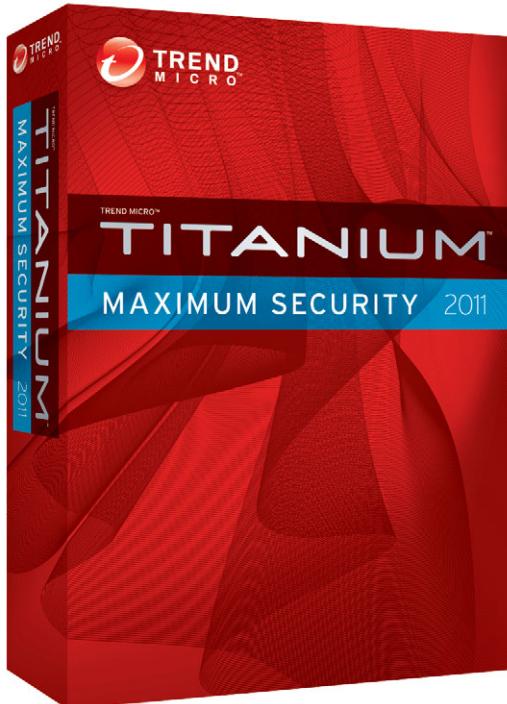
### Avoiding Scareware

The best way to prevent scareware from affecting your PC is to block it from reaching the PC. One way that scareware promotes itself is by pumping up search results so that they come up as the top result for popular keywords. For example, Trend Micro tells us that a malicious SEO (search engine optimization) campaign was able to push itself into popular search results by using malicious landing pages to redirect PC users to Web sites where the hackers embedded the scareware.

Trend Micro's Web Reputation Service, which is built into most Trend Micro software, is capable of detecting and blocking Web addresses that are thought to be a risk to your computer.

Yaneza says, “Scareware uses Javascript code, which is the code that creates interesting designs and features on Web sites, so you can't eliminate every threat of scareware. Nor can you

block Javascript on your Web browser if you want to enjoy all of today's Web sites.” Thus, the only way to reliably block scareware is to keep your antivirus and antispyware tools up-to-date. One of the easiest ways to do so is with security software that uses cloud computing to provide real-time definitions for your PC. Trend Micro, for example, offers a feature called the Smart Protection Network to provide real-time protection for Web, email, and file-based threats. ■



BY NATHAN LAKE

Trend Micro Maximum Security 2011 includes features that will help to block scareware from loading on your PC.

# SOFTWARE UPDATES

*When it comes to protecting your software, installing the latest updates is one of the most important steps you can take. Software updates fix bugs, plug security holes, and sometimes even add new features. Here are the updates you should know about this month.*

*Compiled by Marty Sems*

### Adobe Flash Player 10.3

**UPDATE:** Adobe has accelerated its security efforts lately. With a few notable exceptions, such as the iPad, the company's Flash plug-in is installed on most computers to support multimedia content on a broad range of Web sites. Hackers cottoned to the software's ubiquity long ago and seized the opportunity to use it as a malware vector. Hence it's important to keep Flash updated.

This update is available for several operating systems, including Windows, Mac OS, Linux, Solaris, and Android. The company says, "This memory corruption vulnerability (CVE-2011-2110) could cause a crash and potentially allow an attacker to take control of the affected system. There are reports that this vulnerability is being exploited in the wild in targeted attacks via malicious Web pages."

**INSTALLATION:** If Adobe's updater program is running on your system, it will prompt you to update Flash when there's an important patch available. Temporarily turn off your antivirus software's active defenses according to the instructions in its Help file. Check the box that says you agree to the Flash Player License Agreement and click Install. When the installation is finished, click Done and Close Download Manager. Don't forget to turn your antivirus software's defenses back on when you're through.

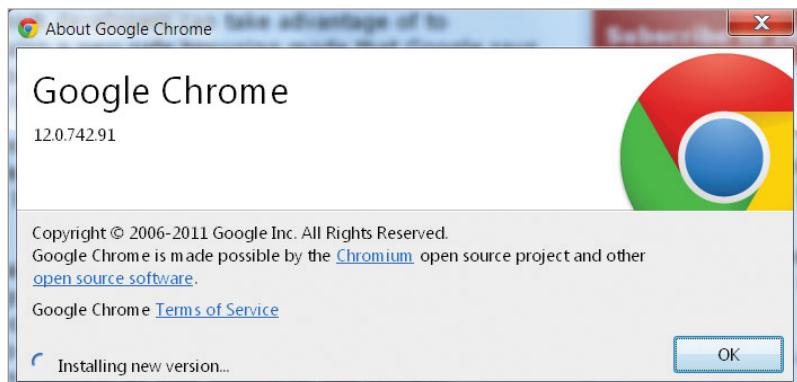
As an alternative, you can install Flash manually. Point your browser to [get.adobe.com/flashplayer](http://get.adobe.com/flashplayer). Turn off your antivirus software for the moment. Next, uncheck the Include In Your Download box unless you want to install Google Toolbar. Finally, click Download Now and then allow the process to run if your PC issues you a security challenge. For example, using Internet Explorer 9 on a Windows 7 computer, we had to click Install twice. Use our instructions in the previous paragraph for the rest of the installation process.

### Adobe Reader 10.1

**UPDATE:** The former Acrobat Reader, like the PDF files it lets you view, has become another favorite malware vehicle for digital ne'er-do-wells around the globe.

Fortunately, Adobe has stepped up its security game, squashing bugs and fixing holes. This latest update is for Windows, Mac, and Unix systems. It fixes 13 critical vulnerabilities that "could cause the application to crash and potentially allow an attacker to take control of the affected system." The variety of vulnerabilities has to do with buffer overflow, heap overflow, memory corruption, DLL loading, cross document script execution, and memory corruption denial of service issues.

**INSTALLATION:** By default, Adobe Reader automatically phones home to check for new updates on a regular basis. When its updater prompts you to install a new version, let it. If the updater isn't running on your PC for some reason, or if you've heard of a new patch before the



Chrome is possibly the easiest browser to update. Simply click its About Google Chrome menu item, wait a few moments, and then relaunch the browser if necessary.

## SOFTWARE UPDATES

updater has thus informed you, you can seek out updates on your own. Launch Adobe Reader, and then click Help and Check For Updates. Another method is to browse to [www.adobe.com/downloads/updates](http://www.adobe.com/downloads/updates) and then use the Find Product Updates drop-down menu to find the version of Adobe Reader for your OS. Click Adobe Reader 10.1 Multiple Languages, Proceed To Download, and Download Now twice (whew!). After the file downloads (it's called AdbeRdr1010\_en\_US.exe in our case with our Windows 7 PC), double-click it and follow the installer's instructions.

### Google Chrome 12

**UPDATE:** Mere months after Google released Chrome 11, the nascent browser is now available in version 12 (12.0.742.100 at this writing). Chrome 12 fixes a number of security issues, five of which were rated as highly vulnerable. It's not lacking in new features, either. To wit: hardware-accelerated 3D CSS (Cascading Style Sheet), a Safe Browsing feature for protection against malicious file downloads, the ability to delete Flash cookies from inside the browser, the capability to launch applications by typing their names into the Address bar (called the Omnibox in Chrome), Google Account synchronization, better support for screen reader, a new warning when Mac users press the Command-Q key combo, and the intentional omission of Google Gears.

**INSTALLATION:** Click the Customize And Control Google Chrome icon, which looks like a wrench, in the upper-right corner of your screen. Chrome will automatically check for updates. If it installs one, you may need to relaunch the browser to finalize the patching procedure. ■

### Update Of The Month

#### Java 6 Update 26

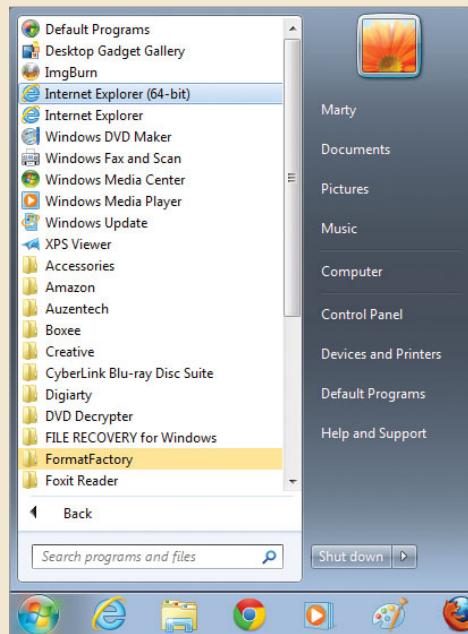
**UPDATE:** This is a Windows, Linux, and Solaris update for Oracle's Java SE (Java Platform, Standard Edition). The fairly common JRE (Java Runtime Environment) client software lets compatible programs run via a browser plug-in, whatever the OS of the computer itself.

Update 26 is an important patch that closes a number of loopholes that are already being exploited by hackers. Out of 17 Java applet or Java Web Start application vulnerabilities fixed in the update, Oracle ranks nine of them as the worst kind possible, a 10 on the CVSS (Common Vulnerability Scoring System) scale. All 17 allow remote code execution without authentication, meaning that a hacker can exploit them over a network (such as the Internet) without needing to know your username and password.

**INSTALLATION:** Before you update Java, you'll need to get rid of any old versions residing on your computer. Click Start and Control Panel, and then launch Programs & Features. Uninstall any Java editions earlier than version 6 Update 26.

Next, use Internet Explorer to update Java's 32-bit edition. Click Start, (All) Programs, and Internet Explorer. Go to [www.java.com](http://www.java.com). Click Free Java Download and then click Agree And Start Free Download. (If your browser asks whether to run the Java plug-in on the page, let it.) Choose Run if you can. If you have to save the update file first, find and run the update when it finishes downloading. After the new Java version installs, verify the installation; you may need to go back to [www.java.com](http://www.java.com) and then click Do I Have Java? and Verify Java Installation. Close Internet Explorer.

Finally, if you are running a 64-bit version of Windows, you'll need to use the 64-bit edition of Internet Explorer to update Java's 64-bit version, too. Click Start, (All) Programs, and Internet Explorer (64-bit). Follow the directions in the previous paragraph to install and verify Java and then close Internet Explorer when you're done.



The trick to properly updating Java on a 64-bit OS is to install it with Internet Explorer's 32-bit version, and then again with IE's 64-bit edition.

# Q and A

**Need help with your hardware or software? Looking for simple explanations on technical subjects? Send us your questions!**

Get straight answers to your technical questions from *Smart Computing*. Send your questions, along with a phone and/or fax number, so we can call you if necessary, to: Smart Computing Q&A, P.O. Box 85380, Lincoln, NE 68501, or email us at [q&a@smartcomputing.com](mailto:q&a@smartcomputing.com). Please include all version numbers for the software about which you're inquiring, operating system information, and any relevant information about your system. (Volume prohibits individual replies.)

Online



**My homeowners association provides Wi-Fi to all residents. Two of my computers connect automatically to the secured network, but when I try to connect with a third computer, I'm asked for the network key. When the network was set up, I did not receive any numbers or keys. One connecting computer is using Windows 7 and the other uses Windows XP Pro. The one that is asked to provide a network key is also running WinXP Pro. Is there a way to find the network key?**

**A** The network key is a security feature in the form of letters and numbers that authenticates your computer to the wireless network. There are several options that might allow you to connect to the network if you don't have your network key.

First, you'll need to view the network properties on the WinXP computer that is able to connect to the network. Click Start and then Control Panel. Next, click Network And Internet Connections and Network Connections. You should see the computer's wireless network adapter listed in this window. Right-click it and select Properties.

The Wireless Network Connection Properties window should open. Click the Wireless Network

tab. Under Preferred networks, you should see the name of your HOA's Wi-Fi network. Select it and click the Properties button. This will open another window labeled Wireless Network Properties. Select the Association tab.

Now (in the words of Clint Eastwood), you have to ask yourself if you feel lucky. What you're looking for in this window is one of two Network Authentication modes, either Open or Shared. If the Wi-Fi network uses any of the other modes (WPA, WPA-PSK, WPA2, WPA2-PSK), you have no recourse but to contact either the HOA or the service provider that administers the Wi-Fi network.

If Open or Shared is the Network Authentication mode, you're not out of the woods yet. At the bottom of this tab is a checkbox titled, The Key Is Provided For Me Automatically. If this box is checked, it means that the network provides your wireless adapter with the key transparently. Exchanging the network key in this manner is not the most secure method of controlling access to the network, but it does simplify things for users. Assuming this is checked, you'll want to go to the WinXP computer that's prompting you for a network key and make sure that it has identical settings as this computer. ■

Online



**I had an Internet connection on my desktop PC that I kept disconnected for a couple of months. When I reconnected it to start using it again, I found I don't have an Internet connection. The lights on the Ethernet card are lit, but nothing is coming through. Is there a fix for this?**

**A** In our experience, this problem usually arises when a computer is disconnected from the network for an extended period

of time. After a set interval, its IP (Internet Protocol) address is no longer valid, and it loses connectivity. Fortunately, the solution is pretty straightforward.

First, click Start, type **cmd** in the Search Programs And Files field, and press ENTER. This will open a command prompt. Next, type **ipconfig /renew** and press ENTER. This command tells your computer to request a new IP address from your network. After a few seconds, it should

## Hardware



return with all of your network settings. The settings you want to see populated are IPv4 Address, Subnet Mask, and Default Gateway. If these three settings aren't

assigned, you'll need to contact your Internet service provider. Once these settings have been assigned, you should be able to access the Internet. ▀

**I have a plug-in keyboard and mouse that suddenly are not being recognized by the motherboard. I borrowed a USB keyboard and wireless mouse which work fine except that I cannot access the BIOS (Basic Input/Output System) through them on startup, as they are not recognized by the system until after the boot checks. Is there a way of accessing the BIOS to see if something was changed to disable the keyboard and mouse port on the motherboard or if the port has failed? Note that both the keyboard and mouse quit being recognized by the motherboard simultaneously. I have tried both on another system, and they function properly. Any suggestions?**

**A** Most motherboards don't have the ability to utilize USB devices until the

operating system (Windows) has booted. So to enter your BIOS and check the settings, you would need to use a PS/2 keyboard. However, our hunch is that the PS/2 port on your motherboard is damaged; because your original keyboard and mouse are working fine on another computer, they're not the problem. If you visit the motherboard manufacturer's Web site, it should provide a guide for resetting the BIOS back to the factory settings by removing a series of small connectors called jumpers.

We've never seen an instance where a BIOS disabled both the keyboard and mouse ports without user intervention. The most likely culprit is that the ports are failing or somehow damaged. ▀

## Online



**I have Internet Explorer 8, but when I go to different Web sites, they all say I have Internet Explorer 6. I know I have IE8 because I just reinstalled it on my computer again to make sure. Why is this?**

**A** When you visit a Web site, your browser tells the Web site what "user agent" it has installed. This user agent string contains a wealth of information that helps Web sites properly deliver the Web pages you request. Many sites no longer support older browsers such as Internet Explorer 6. Because you've installed Internet Explorer 8, your user agent string should be properly identifying the browser, but something has corrupted your user agent string.

First, launch Internet Explorer, and go to [www.fiddlertool.com/ua.aspx](http://www.fiddlertool.com/ua.aspx). This will show the full user agent string along with a tremendous amount of information concerning your

browser. For Internet Explorer 8, the text in red should be something similar to:

Mozilla/4.0 (compatible; MSIE 8.0...)

Our hunch is that instead of displaying MSIE 8.0, it's displaying MSIE 6.0. If this is the case, you need to reset your user agent string. You can do this on the same Web page that is displaying the string. Click the User-Agent Picker link. This takes you to a second Web site to download a utility that will allow you to reset your user agent string.

Finally, Microsoft isn't supporting the newest version of Internet Explorer (IE9 at the time of this writing) on Windows XP. Although IE8 is a good browser, it lacks some of the security features of the latest browsers from Microsoft, Google, and Mozilla. Our recommendation is to install the latest version of your browser. ▀

# Tech Talk

Answers to users' most common questions about **Power Protection**

UPS equipment switches to battery power when there is either too much or too little electricity coming from the wall socket.

**Q** **What is the difference between a surge suppressor and a UPS (uninterruptible power supply)?**

A surge suppressor protects connected equipment from potentially damaging power surges and spikes (lightning strikes, for example). A UPS typically does that, but also contains a battery that can temporarily supply power to attached equipment if there is a power failure. This gives you time to save your work and shut everything down.

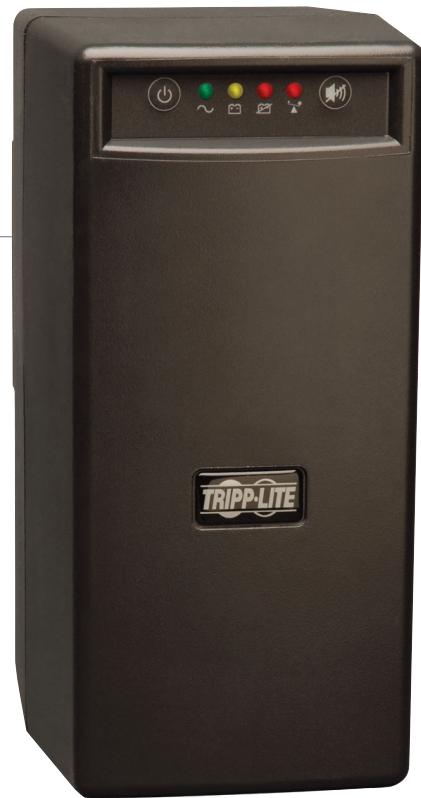
UPS hardware often comes with other features as well. A good example is power conditioning (sometimes called line-interactive), which absorbs minor power surges and boosts minor power sags so that a continuous "clean" stream of electricity is delivered to attached hardware.

**Q** **Will the UPS keep every device that is plugged into it running when the power fails?**

It depends on the model. Some UPS hardware provides power to all of its outlets, but most only supply power to a few outlets while providing surge suppression and basic power conditioning (more on that later) for the other outlets. Check the specifications to see how many outlets are powered by the battery.

**Q** **What types of power problems do UPSes protect against?**

UPS equipment switches to battery power when there is either too much or too little electricity coming from the wall socket. The worst case of too much is a power spike, such as those generated from lightning hits, that can blow a fuse or trip a breaker in the UPS (although attached equipment will continue to function on battery power). A more common type of power overage is a surge. This is a milder boost that often is caused by a large electrical appliance shutting down, overloading the power



Good UPS hardware such as the Tripp Lite BC600SINE (\$160; [www.tripplite.com](http://www.tripplite.com)) output electricity as a sine wave, like a wall socket, instead of as a modified sine wave that isn't always compatible with modern Active PFC (Power Factor Correction) computer power supplies.

lines temporarily until the flow of electricity is reduced to compensate.

On the too-little power side, the mildest is a sag, where power is reduced below its ideal level for a second or two (this often happens when something requiring a lot of power, such as the AC system, starts up). A brown-out happens when there is a reduced power condition for a longer period of time. Finally there's a blackout, which happens when the power goes out completely. In all of these conditions, a UPS uses battery power to keep attached equipment going until the situation resolves itself (or the battery runs out).

**Q** **Should I plug all of my hardware into the UPS?**

You don't need to. Your PC, monitor, and external hard drives should all be plugged

into the outlets with battery backup. Printers (particularly laser printers), should be plugged into the other outlets, as they often draw a lot of power when they initialize and may temporarily overload the UPS. Other peripherals that aren't necessary for you to save your data and properly shut down the computer should be connected to outlets that don't have battery backup. (Some UPSes have both backed-up and non-backed up outlets.)

**Q** **Most UPS equipment has watt and VA (volt-ampere) ratings listed in the specifications. How do I add up the watt and VA ratings of my hardware so I can accurately determine what type of UPS to buy?**

Sometimes these ratings are printed directly on the hardware, but they should be available in the specifications manual or online. You'll need both numbers because you can't exceed either the watt rating or VA rating of the UPS or your hardware won't work with it.

Some UPS devices only list a VA rating. The rule of thumb is that the watt rating is 60% of the VA rating, so a 1000VA UPS has a 600-watt rating. It can get confusing, and sometimes you don't have access to the information you need, and in those cases, we recommend seeing if the company you plan to buy a UPS from has a calculator that will add everything up for you. For example, TrippLite has one at [tinyurl.com/6bg5glm](http://tinyurl.com/6bg5glm) that lets you make a list of equipment by make and model, choose how long you want everything to run from battery power,

and then view UPS models that meet those requirements.

**Q** **Can I plug a power strip into another power strip? What about plugging a UPS into another UPS, plugging a UPS into a power strip, or plugging a power strip into a UPS?**

Plugging a power strip into another power strip is called daisy-chaining, and although some high-end industrial-strength power strips are designed to be used this way, consumer-grade models rarely are. Daisy-chaining a power strip not designed for that use makes it very easy to overload the socket where the second power strip is plugged in, which could result in anything from a tripped breaker to an electrical fire.

You also shouldn't plug a UPS into a UPS. "There are many good reasons not to do this with certain UPS type combinations, some of which could introduce potential UPS failure modes and performance problems,"

says Rich Feldhaus, product manager at TrippLite ([www.tripplite.com](http://www.tripplite.com)). "Specifically, there's a potential for waveform incompatibilities between the two UPS systems under certain loading conditions." This could cause a loss of power or other problems, so avoid it.

Plugging a UPS into a power strip instead of the wall socket is not recommended. "The most direct route from the circuit panel to the UPS involves a direct connection of the UPS to the wall socket, ensuring the UPS has access to all available power on the circuit," says Feldhaus. "Some power strips utilize lower gauge cabling and built-in fuse or circuit breaker ratings that could limit the amount of power available to the UPS."

Finally, although you often hear it is a bad idea to plug a power strip into a UPS, it's OK to do so if you pay close attention to what's plugged into the power strip. "Adding a power strip to the output of your UPS can add quite a few additional outlets, but it's important to keep close track to ensure that the UPS isn't overloaded as more equipment is added," says Feldhaus.

**Q** **If my surge suppressor cuts off power due to a surge or spike, will I need to replace it?**

Most surge suppressors have breaker switches that can be reset or fuses that can be replaced. If yours doesn't have a breaker switch to reset, you should replace the surge suppressor. We also recommend replacing a surge suppressor that absorbed a lightning strike, as that much electricity could

**Total Load Calculator**

Create a list of the equipment you will connect to the UPS system by selecting from the choices below. When you are finished, click **Done** to transfer the total load of all equipment on the list to the Selector.

Search Equipment List    Browse Equipment List

Storage    Netgear

ReadyNAS 1100 RNR4410 (117 watts)    ReadyNAS 1100 RNR4425 (117 watts)    ReadyNAS 2100 RNRX4410 (117 watts)    ReadyNAS 2100 RNRX4420 (117 watts)    ReadyNAS 2100 RNRX4450 (117 watts)    ReadyNAS 3100 RNRP4410 (157 watts)    ReadyNAS 3100 RNRP4420 (157 watts)

Qty: 1    Add to List

**Connected Equipment List**

Qty	Manufacturer/Product	Load (Watts)
1	Dell/Dimension 4100	173
1	Netgear/ReadyNAS 1100 RNR4410	117
		<b>TOTAL LOAD: 290</b>

Print List    Clear List    Done

If you can't find the documentation for the hardware you plan to plug into a UPS, be sure to use an online calculator such as TrippLite's Total Load Calculator to add everything up.

cause problems with components other than the breaker or fuse.

## Q Is the battery power from a UPS exactly the same as power delivered from a wall socket?

Not necessarily. Electricity travels as a waveform, and ideally power from the wall socket travels as a smoothly curved sine wave. Electricity from a battery in some UPS models travels in waves that look like stair-steps instead of smooth curves (often referred to on the packaging as a modified sine wave). High-end UPS models deliver power from the battery using the same sine wave you get from the wall socket.

In general, you don't want to operate electronic equipment for long periods of time using modified sine waves, but for the few minutes UPS products generally operate in battery mode, it likely won't make a difference to your electronics. If possible, however, get a UPS that outputs a true sine wave when operating on battery power. Also, if you have a computer that uses an Active PFC (Power Factor Correction) power supply, there is a chance it won't work with the UPS at all unless it receives power in sine waveform. In this case, you must use a UPS that generates a true sine wave or the computer won't work on battery power.

## Q If the battery in the UPS breaks, can I get a new one, or will I need to replace the entire UPS?

Most UPS devices have replaceable batteries and include a battery indicator to let you know when it's time to swap out the old one for a new one. Doing so is often easy, but you may have to remove a few screws to get to the battery compartment, so be sure to read the manual before doing so.

If you do swap out a battery, don't just throw the old one away. UPS batteries contain all sorts of chemicals

Never throw away old batteries from a UPS. Use a service such as Call2Recycle to find a local recycling center instead.

that you don't want to have leech out in a landfill, so recycle it. Check to see if the manufacturer has a recycling program or contact your local recycling center. You also can visit Call2Recycle at [www.call2recycle.org](http://www.call2recycle.org) for more information about battery recycling drop-off locations in your area.

## Q Is it true you shouldn't use a UPS to power a laser printer?

It depends on where the laser printer is plugged in. "You'll generally have to dedicate a very large system around 2200VA just to run a laser printer, since they have such high current demands, especially on startup," says Feldhaus. "In general, connect your

laser printer to the 'surge-only' UPS outlets if your UPS has them or to a separate surge suppressor if it doesn't."

## Q Is it OK to locate the UPS anywhere?

Heat and humidity are a battery's twin enemies, so no matter what UPS you use, place it in a cool, dry place. Many UPSes have air vents to help dissipate heat, and these should always be free from obstructions. Putting a UPS in an enclosed area such as a desk drawer can also cause heat buildup issues, so try to put it in a well-ventilated area. ■

BY TRACY BAKER

# Office Green

by Gregory Anderson

I live in an eco-conscious enclave of a city that's trying to build a sustainable future while fighting the effects of past economic blight. A lot of technology around here, and around the world, is focused on finding the places where creating economic growth and preserving our natural environment come together. Some of these opportunities are obvious for personal technology, like more efficient appliances and solar panels on the roof. Others are high-return investments for large companies, like LEED (Leadership in Energy and Environmental Design)-certified buildings and wind-powered server farms. But the small businesses and entrepreneurs I work with operate in a different realm. I've found that using the famous old guidance to "reduce, reuse, and recycle" can lower both your cost and carbon footprints in a small office.

First, reduce. As you purchase new devices or computer components, look for multifunction devices. All-in-one printers, smartphones, and tablet PCs are smart business tools that create less waste and less cost by performing more than one job. When it comes to efficiency, I'm amazed at how much smarter today's equipment is than most of what I've been using every day, as I discovered when shopping for a new office printer. Not only are there low-electricity laser printers and ink-conscious deskjets, many models also have automatic shutoffs or sleep modes that reduce the constant "standby power" for which printers are notorious. This not only eases the burden on an overtaxed (and mostly coal-powered) energy grid, but the savings in your monthly electrical bill can drop right to your bottom line. Printers aren't the only devices with such intelligence built in—look for similar monitors, PCs, chargers, and other peripherals which reduce the "phantom power" draw that can constitute up to 10% or more of an office's energy use.

Then, reuse. I know that, for many of us pre-millennials, the allure of printing is impossible to resist. Send me a PowerPoint longer than a dozen slides or an article longer than a full screen, and I'll probably print it out to take notes or read on the train. I'd love to have a duplexer everywhere I print, but

I can't afford to. So I save my single-sided printouts and either pass them back through the printer upside down or use them as scratch paper for taking notes throughout the day, reducing my paper budget by 50%. When it comes to hardware, sometimes the best way to reuse is simply to repurpose. The old laptop that's too sluggish for a developer or graphic designer may work fine for a data entry intern or clerical temp. Outdated but working phones or BlackBerrys can be recycled down the chain from high-use to low-use individuals. Old multifunction printers can be kept in use as low-cost scanners or copiers if they are only needed infrequently. You'll avoid contributing to the heavy environmental costs of electronics manufacturing and transport and at the same time avoid blowing your budget on lightly used devices.

Finally, recycle. There are lots of good local ways to recycle used electronics safely, and retailers often have programs for free or cheap recycling of old parts when you purchase their replacements. Third-party organizations offer other avenues for recycling

or even selling used electronics. Taking advantage of these opportunities can reduce your trash bill and keep often-toxic components out of the landfill a little longer. Also, don't forget that some of your "waste" may be valuable "raw materials" to someone else. Metal and glass leftovers are often sought after by artists and scrap dealers. In some areas, vintage building material and office décor is highly prized by salvage dealers. Many recyclers can help you identify opportunities to connect with people looking for your waste, and may even open new business opportunities you hadn't recognized before. ■



**Gregory Anderson** is a regular contributor to Smart Computing and several other technology publications. He keeps a sharp eye (with the help of thick glasses) on computing trends and enjoys working with geeks of all stripes—most of the time.

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